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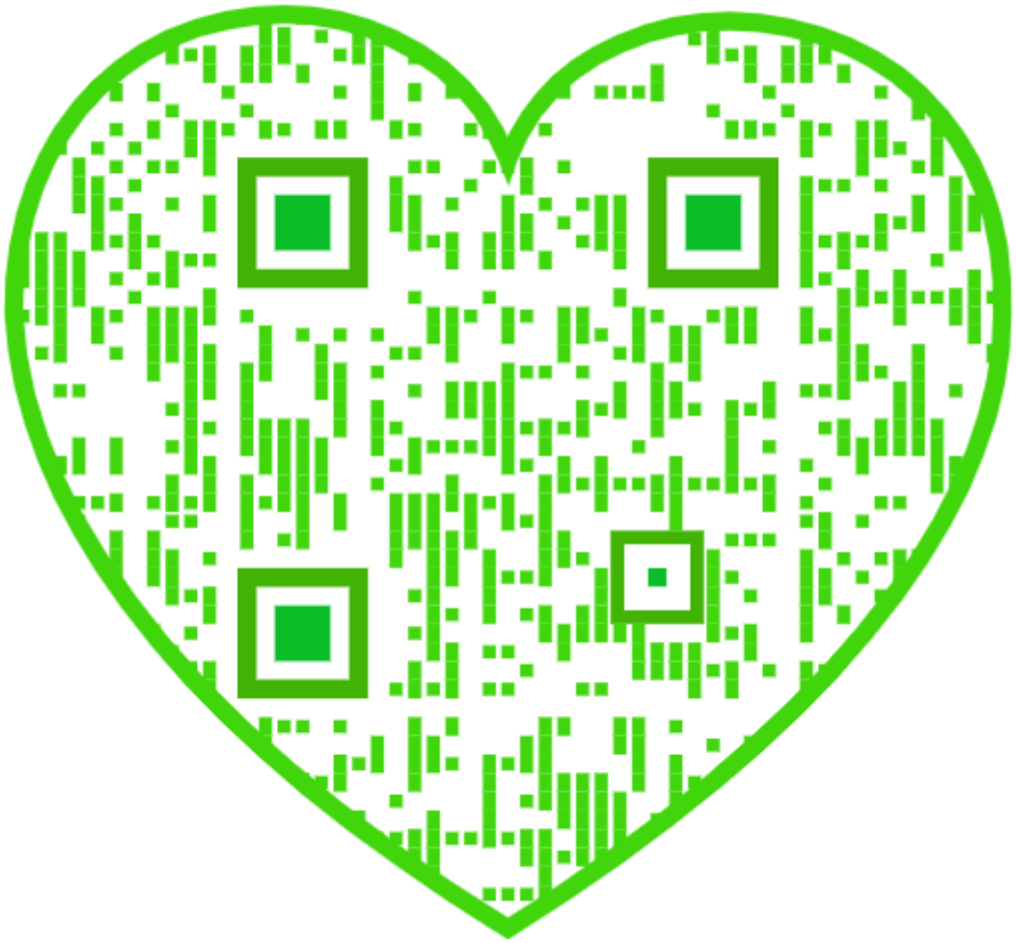

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Editorial, Notices, &c.

VOLUME TWENTY-NINE.

The fact of our penning these lines on the first day of a new century marks the occasion as a memorable one in the annals of bee-keeping. It carries the mind backward and we are led to ask—What was the condition of the bee industry in 1801? Had we ten columns to occupy, how full of interest would be the task of tracing the history of apiculture for the past hundred years! But with only room for a few lines we must be very brief indeed. These are go ahead times, and people have to "hurry up" in all they do; nor is it too much to say that the real march forward in this country, so far as bee-keeping is concerned, began with the birth of the BRITISH BEE JOURNAL in May, 1873. In saying this, we neither ignore nor attempt to minimise the enormous value of the work done by Langstroth in perfecting the moveable frame which now renders the hive an open-book to the bee-keeper; but the establishment among us of a journal entirely devoted to bees and the interchange of thought among keepers, created a bond of union among the devotees of our craft, and led bee-men to talk of each other for the first time as "brother bee-keepers."

Little more than fifty years ago bees were rarely referred to in the Press: and books about them were practically beyond the reach of the bulk of those who kept bees. Thus, the crude methods handed down from father to son by the old time skeppist were almost the only means of acquiring knowledge on the subject among the country folk who constituted the bulk of bee-keepers.

Taking the issue of No. 1 of the B.B.J. twenty-eight years ago as our starting point, we find that little more than twelve months later was held that memorable exhibition of bees, honey, and appliances at the Crystal Palace, which brought bee-men together from all parts of the kingdom, and opened the eyes of not a few of us to what could be done by bees when properly dealt with. The manipulations with living bees by the then editor of this journal, Mr. C. N. Abbott, came as a revelation to many like ourselves who, while able to handle bees and hives fairly well, knew nothing of "open driving" from skeps and throwing the bees about with bare hands and arms as if they were so many peas instead of insects possessing stings and using them.

From that time the bee-tent has become a regular institution at all our most important agricultural and horticultural shows, and hundreds of men are able and willing to do what was regarded with wonder at the time by many of us still to the fore. Indeed, it may be said that Mr. Abbott showed how simple were the "tricks" performed 150 years ago by the famous Wildman, supposed to "charm" the bees so wondrously.

Subsequent to this, we have seen the institution of the British Bee-Keepers' Association and its affiliated county Associations, all of which are engaged in doing useful work and spreading knowledge of all that is good in the craft.

Finally, the BEE JOURNAL, with which we have mainly to do here, has, we hope, done its share in the march of progress. It started as a monthly at 10s. 6d. per annum, was then reduced to 6d. per copy, a price felt to be too high to meet the needs of all classes. It then came out fortnightly at 3d., was next issued as a weekly at 2d., and finally, when it came into the hands of its present proprietor, he realised his long-cherished wish by giving to bee-keepers a journal of their own at 1d. per copy, the twenty-ninth yearly volume of which opens to-day, and conveys the best wishes of its Editors to all readers for a happy and prosperous year.

BRITISH BEE-KEEPERS' ASSOCIATION

BEE-KEEPERS' "DEFENCE FUND."

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, December 20, Mr. E. D. Till being voted to the chair. There were also present Major Fair, Messrs. R. T. Andrews, W. Broughton Carr, J. H. New, W. F. Reid, E. Walker, T. I. Weston, F. B. White, and the Secretary.

Letters explaining enforced absence were read from the Vice-Chairman (Mr. W. H. Harris) and the Hon. and Rev. Henry Bligh.

The minutes of the previous meeting were read and confirmed.

Mr. Till presented the report of the Finance Committee, showing a bank balance of £61 11s. 7d, and brought forward a list of accounts for payment. The report was approved.

It was stated that the papers written by candidates for Second-Class Expert Certificates were still under consideration by the examiners, who hoped to report upon the result to the next meeting.

An application for the grant of medals, &c., to be offered for honey exhibited at a Grocers Exhibition at Leeds during the month of February, 1901, was brought forward, and the Secretary instructed to say that as the Council consider the time of year inimical to a successful display of bee-produce, they regret to be unable to favourably consider the application.

A discussion followed upon the advisability, or otherwise, of undertaking the opening of a "Bee-keepers Defence Fund," in accord with the very generally expressed wishes of bee-keepers. The matter was fully considered, and eventually it was resolved to appoint a committee to formulate a complete scheme for carrying out the object. It was also decided to intimate to intending subscribers to the fund that contributions may be forthwith forwarded to the Secretary, B.B.K. Association, 12, Hanover-square, London, W.

The fund will be in every way a "special" one, to be employed solely in maintaining or defending the interests of bee-keepers and bee-keeping.

By kind permission of the Editors, a list of subscriptions received will be published from time to time in the columns of the BRITISH BEE JOURNAL.

IRISH BEE-KEEPERS ASSOCIATION.

A meeting of the Committee of the Irish B.K.A. was held on December 20 in Dr. Traill's rooms, Trinity College, Dublin. Present: Rev. J. G. Digges (in the chair), Messrs. Abbott, Drought, Gillies, O'Bryen, and M. H. Read (hon. sec.). The hon. sec. presented a report of the interview which the deputation appointed at the previous Committee meeting had with the Department of Agriculture and Technical Instruction, when the deputation presented a scheme for the extensive promotion of bee-keeping throughout Ireland requiring the financial help of the Department.

Miss M. J. Cahill was allowed the Preliminary Examination for Expert's Certificate.

Mr. Gillies submitted his report as judge of honey and wax at the R.D.S. Winter Show, stating that the prize honey was of rare excellence, and opened a discussion as to what should be accepted as the ideal colour of beeswax. It was decided that pale lemon was the colour to be aimed at, as wax of that colour was the most valuable.

Two suggestions to the R.D.S. were approved of—to add a class at the winter show for honey trophies, in which each exhibit would be staged on a 4-ft. square table, decorations being allowed; and at the spring show to allow of later inventions and objects of interest being exhibited in the class for bee appliances.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE B.B.K.A. APIARY.

AN APPEAL TO APPLIANCE DEALERS.

[HSS.] Having lately been staying in Kent, I took the opportunity of visiting the B.B.K. Association's apiary at the Horticultural College at Swanley. After a courteous reception by the Principal, Mr. Wilkinson, I was shown round the apiary by Mr. Herrod, the lecturer and bee-expert, and was much pleased to see how good a use had been made of the rough shed placed at his disposal when the apiary was first started. Inspection, however, discovered various things that were needed to make the place fit for showing to the many visitors which the college draws from all parts of the world. Some of these the Council were able to deal with at their last meeting; others, for lack of funds, must remain unless some kind friends will assist us. The chief want is hives to replace dilapidated ones—purchased second-hand for the sake of the stocks of bees—to be used at examinations for third-class experts' certificates held annually at Swanley. It has always been intended to rehouse these in good hives, but as yet we

have not got beyond the stage of "good intentions." There are about eight wanted. Now, will eight of our leading hive-makers entrust us with one each, specimens of what Britain can do in hive-making? They would be well cared for and well used, and would show visitors and pupils the style of hive that is considered best for general use in this country. We constantly hear of new designs in "swarm-catchers"; here is an opportunity for any man with faith in his pet invention to have it tried under favourable circumstances of supervision. I am sure Mr. Herrod will be only too glad to give any appliance of the kind a fair and impartial trial in the Association's apiary. At Swanley we have the nucleus of an instructive apiary in congenial surroundings. I do hope a sufficient effort will be put forth to make it worthy of this country. Who will help?—THOS. I. WESTON, *Member of the B.B.K.A. Council, Wickham Bishops, Essex.*

MR. LAMB'S "MEDITATIONS."

[4189.] Mr. Lamb is so well known among us in Yorkshire as a thoroughly capable bee-keeper, that anything he puts forward as of importance should, on the face of it, be carefully considered.

I suppose that what he says as to the possible advantage of a somewhat larger frame for the hive's brood-chamber he only advances very tentatively. Occasionally, no doubt, we have all found our ten-frame brood-chamber hardly big enough for a very vigorous queen in a good season; but as a rule, there is plenty of room, and when there is not, empty frames can surely be given. And it would, I think, be such a grave misfortune to introduce another frame in competition with the "Standard," that I hope this matter may be left severely alone, except in the way of purely theoretical discussion.

But when Mr. Lamb suggests an alteration in sections he speaks of something in which very many of us will be on his side. In Yorkshire at any rate, two years out of three, section-producing is disheartening work; whatever may be the case south of the Humber, north of it we cannot rely on a honey-flow that will fill our rack of sections. There can be no doubt whatever that a section narrower than the present one (from face to face) would be taken to and worked out much more easily. And if three sections could be made to fit in an ordinary shallow-frame, the thickness of the section being calculated so that the increased area might just make up for the loss in thickness, I personally should be very glad to give such sections a trial, and I think the result would be satisfactory. I go with Mr. Lamb in asking for the sections to fit into the present shallow-frame, partly because the bees like shallow-frames, and partly because I certainly do not want yet another appliance in the shape of a new section-rack.

I write mainly in the hope of starting a discussion on Mr. Lamb's suggestion, because it seems to me to deserve consideration. I recognise Mr. Lamb's old saying—"Success—and simplicity"—as very valuable.—SIDNEY SMITH, *Wheldrake Rectory, York.*

BEE-KEEPING IN SCHOOLS.

[4190.] The request made by your correspondent, "D. L. H." (4163, page 481), in B.J. of December 6, still remains uncomplied with, so I should like to say something in reply. Teachers are, as a rule, rather oppressed by the multifarious subjects embraced in the "Code," but bee-keeping comes in all right in the new division of Nature knowledge and I have introduced it there with good effect. I cannot say much about illustrations, as I take mine at first hand from Nature and the many innumerable paraphernalia embraced in a bee-man's outfit. I know no better book for this or any other purpose than the "Guide Book," but I prefer to cast books aside in my treatment of the subject and draw on my inner consciousness. Bee-keeping, thus treated, makes an interesting and fascinating study for children. It is useless dealing with the scientific aspect of the question, and regular set lectures are of little value for children of school age, being above their comprehension. I prefer to treat it in the way of bee-talks. So dealt with, every ear is open wide, every eye bright and sparkling, and every face alert and beaming with intelligence, showing that every little brain is ready to retain the impression conveyed by words or the examples shown. Comb-building makes an excellent theme quite within their comprehension, and illustrations are ever at hand of this wonderful process at all stages of its development. They show no weariness or laxity during a good long talk, and retain a wonderfully intelligent grasp of the subject at the end. Another day I take "From Egg to Perfect Insect." All is animation. Already familiar with the construction of cells, they evince a keen anxiety to know *why* the bees have built this masterpiece of construction. An empty cell is shown, then one with a newly-laid egg, and so on one in each the different stages of development. Then the pupa stage is described and illustrated as well as the early nymph period. The sealed cell is exhibited, and if possible a young bee is shown eating its way out or just emerging, and she is allowed to march across the palm of the hand. As a companion picture I have no hesitation in cutting out a piece of drone comb and assisting the burly fellow who occupies it to make a premature acquaintance with the light of day, while, to complete the picture, I exhibit a nearly ripe queen-cell, gently aiding the young royal virgin to complete a tryo for exhibition before the most attentive audience a lecturer ever addressed. In summer-time all these illustrations are easily provided, being always at hand. No pictures, however

well executed or however bright and vivid they may be, can match the *reality*. Show even young children the above life pictures, and you leave an impression on their minds which will never be effaced. The whole is received with wonder and delight. I find that, on returning to the subject after a considerable interval, I have been astonished at the result of their close observation. I have got a good many of them to describe even the relative position of the egg in its successive stages until it is hatched; and they are keen on the time taken to produce a perfect queen, drone, or worker. They quickly seem to appreciate the importance of feeding in working the magic change which creates a new creature with new functions, duties, and privileges.

When the swarming season comes round, what picture can equal the reality, or what amount of description can convey anything so vivid as the actual scene open to the observation of all of them? Then at honey-taking scraps of comb are always at hand to serve better than any picture or word-picture to show what honey is, how it is stored, where it is got, and what is its use and function. Every branch of the subject can be dealt with thus, and every country teacher who keeps bees can show these budding crofters, cottars, small farmers, or tradesmen of the rising generation a more excellent way than even our friends in the Sister Isle have in the "gentleman who pays the rent" of providing some luxury to aid in making life more worth living.—F. E. I. S., *Scot.*, *December* 23.

HOW TO UTILISE SWARMS

WHERE INCREASE OF STOCKS IS NOT DESIRED.

[4191.] Under the above title your correspondent "D. P. H." (4131, page 439, November 8, 1900) puts forward a plan in which he proposes to deal with a swarm in such a manner as to utilise its energies for the benefit of the parent stock, and finally to return it, minus the old queen, to the parent hive, the united forces being then headed by the young queen. Your correspondent asks for criticism, and in the editorial footnote the comments of experienced bee-keepers are also invited; so far, however, no one has offered any opinion or criticism on the scheme.

Had the proposed plan contained in it points which an experienced bee-keeper could see would cause its failure, one would have expected the editorial note referred to to have revealed this, if only for the sake of the many inexperienced ones who might be tempted to try it; but there seems no hint to this effect.

The question of how to deal with swarms to the best advantage when increase is not desired is one which has special interest for the amateur who only wishes to keep a small and limited number of hives; and this is obviously the time to discuss all such matters—three or four months hence will be too late. I should like, therefore, to ask (not by way of criticism) whether it would be better, or not so good, to have only one entrance common to both lots of bees? It could, of course, be opened its fullest extent.

From a structural point of view this would obviously be a very great simplification, and in order that the bees belonging to the swarm should not have to pass through *two* excluder-zincs to get to their brood-chamber, the crate of sections presumed to be upon the parent hive I would place *above* the swarm. The questions are—(1) Would a swarm hived in a brood-chamber (shallow or standard frames), separated from the parent stock by excluder-zinc, work amicably along with the old stock using the same entrance (the entrance, of course, of the parent hive), for the three weeks or thereabouts specified in "D. P. H.'s" letter? (2) Would the fact that the bees of the swarm were obliged to pass through one excluder zinc in order to get to and from their brood-nest put a serious check upon their activity? —G. S. N., *Wallington, Surrey.*

(*Correspondence continued on page* 6.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The two views of Mr. Quayle's apiary shown on next page will naturally arouse more than ordinary interest, because of depicting the actual scene of the most notable honey-takes from single hives we have yet been able to record. To those whose privilege it is to have visited Glenmay it will be a permanent reminder of the beauties of the place and all readers will like to see it. We add nothing to the full notes sent by Mr. Quayle, who writes as follows:—

"My first remembrance of bee-keeping is in connection with a dozen or more skeps which my grandparents kept in the same garden where I now keep some of my hives. I sometimes took part in hiving the swarms, and well remember the old custom of rattling a tin can—or some other 'musical' device—to cause the bees to settle. I also assisted at the yearly operation of smothering the bees with brimstone. A good many persons in this neighbourhood kept bees in skeps in my younger days, but the number is now greatly diminished, the bees having in most cases died out. I fear that foul brood—unknown to the bee-keepers themselves—was the main cause of this, although the bee-manipulations were almost wholly confined to the respective hiving and smothering operations mentioned above. My real interest in the craft was first aroused by reading an article on bees in the *Boys' Own Paper*. Later on I paid a visit to that veteran Manx bee-keeper, Mr. Henry Corlett, of Ramsey, who kindly showed me through his apiary, and explained the method of working the modern frame-hive. In the spring of 1887 I obtained

a frame-hive, and put a swarm therein on June 15 following. This swarm yielded over 50 lb. surplus the first year. I also obtained a copy of 'Modern Bee-Keeping,' and for a beginner I consider that work an epitome of useful, practical instruction. For my part, I believed its teaching, and implicitly followed out its directions, in every case with more or less success.

"If I am not growing tiresome, I should like to tell you an experience I had with foul brood, which may induce other bee-keepers to relate their experiences.

"The 'Wells' hive—behind which I am seen standing in photo—was badly diseased in one of its compartments in the spring of 1899, and at the end of May I decided to starve the affected bees and put them on clean frames. In my attempt to do so, the bees (a good strong stock) joined of themselves to the excellent colony which occupied the other compartment of the hive. A few days later a large swarm issued from that side, which I hived in the empty half and soon afterwards supered. I secured a good yield of honey from it, and there is now not a trace of foul brood in the hive. Moreover, this 'Wells' hive in the past season of 1900 yielded per colony more honey than the average of any hive in my whole apiary.

MR. LANCELOT QUAYLE'S APIARY, GLENMAY, ISLE OF MAN.

"My hives are arranged to take twelve or thirteen Standard frames (parallel with entrance) in brood-chamber, as I consider that

a good queen requires this number, and by providing super room in advance of requirements I am seldom troubled with swarms. I do not, however, think this type of hive is the best possible. My ideal of a hive is one about 15 in. square on the top and 12 in. in depth. This would afford the cubic space for breeding that I consider best, besides affording a good supering surface for conserving the heat of the hive. I find that in a changeable season the outside combs are often more slowly filled and sealed owing to the larger surface being less adapted for economising the heat arising from the brood-nest.

"The honey harvest here does not commence as a rule until the third or fourth week of June, but continues quite to the end of August; thus owing to the late start made I am enabled to get all stocks ready for the honey-flow when it comes. This is, I think, one of the main reasons why I am able to secure such a good average take of honey. In the year of my first 'record take' in 1897 (*vide* B.J. of October 21, in that year) nearly all my crop was got from white and alsike clovers (we have no sainfoin and very few limes). In the year 1899, when I did better still, the bulk of my crop was a blend from clover and heather.

"I have no doubt that there are many places in the United Kingdom equally favourable for honey production as Glenmay; witness the famous 'take' reported by your correspondent 'D. M. M.,' of Ballindalloch, Banffshire, besides others which have been noted in your columns. The great point is to have every colony in readiness for work when the honey harvest commences, and then to provide ample storage room for all the bees can get. This prevents 'loafing' while honey gathering is at its best.

"Bee-keeping is a science I love. Not only has it been a source of profit, but it has also opened out new fields of knowledge to my gaze, and enlarged my circle of friends, for I can now count among these many British bee-keepers with whom I have been brought into contact personally and by letter. I have also much enjoyed the visits of brother bee-keepers who during their holidays have visited 'our own dear Ellan Vannin with its green hills by the sea.'"

CORRESPONDENCE.

(*Continued from page* 4.)

SHOW MISMANAGEMENT.

[4192.] Mr. Jno. Berry's letter (4159, page 479) and that of Mr. H. Waddington (4167, page 490) in B.J. of December 13 and 20 show that I am not the only dissatisfied exhibitor at the Industrial Exhibition held in the Waverley Market, Edinburgh, in October last.

I must say that it was your appeal in B.J. of October 4 last that made me endeavour to do my best for the honey-class in that exhibition. I therefore wrote—and got a prompt reply each time—and as there was a class for "Heather-Honey in Bell-Glass," and I had a very good one at the time, but had sold it. However, I wrote the purchaser to see if same could be had for exhibiting at Waverley Market, and in the end fortunately (or unfortunately) I got it sent to Edinburgh, where it arrived safely and in time, but the *bell-glass was never staged*. I waited about a week, and not having any word regarding it, I wrote, but got no reply. I afterwards wrote other three letters on the subject, and have never yet been vouchsafed any reply, the inattention between the *before* and *after* being quite a remarkable contrast.

The bell-glass arrived here some time afterwards in worse condition than when it was sent off, and the result is that I shall most certainly pass by any appeal which may appear regarding any future exhibition held in Edinburgh under the same management.—JAS. WADDELL, *Wooler, Northumberland.*

RURAL INDUSTRIES.

[4193.] Your correspondent, W. Forbes, asks (4175, page 498) you to say if it would be advisable for him to give up his present profession (that of an engineer) for the rural occupations mentioned in his letter. I should say he must, of course, decide that question for himself, but from a health-giving point of view "a drawing office" would not for a moment compare with work in the orchard or apiary; while from a financial point of view, if run on a business and truly scientific line, the difference would not be as great as the uninitiated would imagine. It must be realised that a considerable amount of skill and labour, and capital also, to make a success of the undertaking, would be a *sine quâ non*.

The oft-discussed question of poultry-farms paying is proved, when (as was stated by the Rev. Butlin in a daily paper recently) income-tax on £300 per annum net gains has been paid. Now I do not say that your correspondent will do this *ab initio*, still it is within the bounds of possibility. As I have had some slight experience on three of the four subjects mentioned by your correspondent, I do not mind giving him a few hints either through the B.B.J. or by post, as preferred. Meanwhile, I conclude by a reiteration of the advice given by our Editors, to procure the services of an assistant well up in one or more of the pursuits mentioned.—A NORFOLK BEE-KEEPER, *Swaffham.*

FUGITIVE PAPERS
ON ANCIENT BEE-BOOKS.

No. 9.—RÉAUMUR.

[4194.] In the life of Swammerdam (1735) prefixed to the folio edition there occurs the

following sentence:—"There is now in France such another bright Sun, who by his light not only shews, but adds grace and dignity to every object he is pleased to shine upon. I mean that prodigy of our age, and glory of his country, the illustrious Réaumur."

These words very well link the subject of the present sketch to that of the last.

He was born at Rochelle in 1683, was a member of the Academy of Sciences at Paris, and discovered the art of manufacturing porcelain. He was the first who reduced thermometer to a common standard, and the instrument constructed upon his principles still goes by his name. One of his chief works was "The History of Insects," in six volumes, 1732-1744. Bevan in his introduction to "The Honey Bee," 1838, says of Réaumur: "To him the *genus apis* is under greater obligations perhaps, than to any entomologist either of ancient or modern times."

I have not access to his original work, but I possess a book called "The Natural History of Bees," translated from the French, and published in London, 1744. It takes the form of nineteen conversations between Clarissa, "the mistress of a family residing in the country on her own estate," and "Eugenio, the other person of the dialogues is the Author; and though he borrows almost all his facts from M. de Réaumur, though he often copies his expressions, 'tis still Eugenio, who is accountable for the use he makes of them." The author speaks of Swammerdam as a great anatomist, but not as one who practised bee-keeping, whereas De Réaumur not only gives "a new history of these animals, which one may consider as the most compleat and perfect work, in all respects, that can be hop'd for in this kind; as well with regard to the natural history of Bees, as to the new and easy methods, there proposed, for their increase and improvement."

What then do we find of new matter in this book? Evidently the hive by the side of which the conversations take place was an observatory hive very superior to anything yet met with, for though it is not described, all the details of the bees work are shown in it, for instance, the queen-bee laying her eggs. In speaking of the nurse-bees the author says: "When a bee continues some moments in a maggot's cell, it is without doubt there to disgorge that kind of pap or jelly, against which the body of the maggot is supported and with which it is surrounded."

We here see the word "jelly" used as in modern times. Propolis is mentioned as a "rosin with a great deal more tenacity than wax." The knowledge of wax had advanced another stage, for "Experience has taught me that it is not sufficient for the bees to work up the crude wax (pollen) between their claws after they have moistened it with some liquor; it has showed me it is in the very body of the bee, in which this crude wax is to be wrought that the true laboratory is to be found there." Truer ideas prevailed as to ventilation. "A too close air corrupts daily, the moist air kills, and even rots them in the hive. From these considerations several persons think it safer to let them stay abroad."

A curious custom prevailed of casing the hives with earth and surrounding this with an old cask, leaving a flight hole, and having some protection from the weather above. A strange "winter packing," troublesome in application, but doubtless of considerable warmth. One point is worthy of notice, namely, the wide circulation which Mr. Butler's book, "The Feminine Monarchy," in its Latin form must have had, as it is quoted in this French work with approval.—A. A. H.

CHEAP DETACHED FREEHOLD DWELLINGS.

TO ENCOURAGE MINOR RURAL INDUSTRIES.

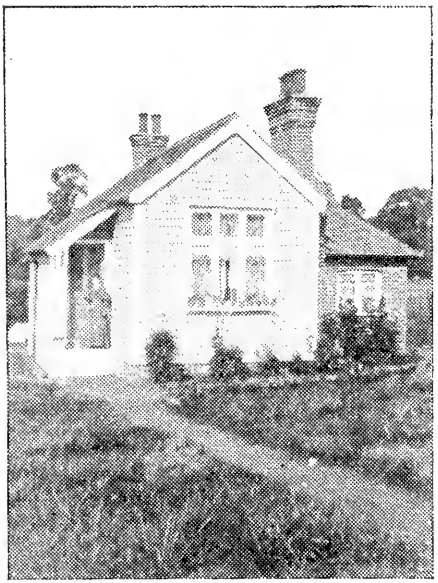
[4195.] I am getting enquiries about the cottage scheme I referred to in B.J. of Dec. 13 (page 491), and not being able to afford time to reply I shall be glad if you will print the enclosed cutting from our local paper in the B.B.J. It will, I hope, serve the purpose of a reply to all enquiries.

I might also add a line to my former remarks by showing that the mischief to the rural dwellers and rural districts resulting from running up those abominable terrace-dwellings for labourers, with nothing better than "air-wells" for back gardens, is incalculable. The labourers and their children, for sheer lack of opportunity, lose the taste for country pursuits, and cottager industries cease entirely where they used to thrive. The pig, the poultry, and the bees go, so to speak, "to the dogs," but even a dog can no longer be kept, and youngsters in the country grow up without any of the old-fashioned training they used to get; thus cottager industries perish! Great is the responsibility resting on the heads of those who own land and those who build. It is an absolute fact that in one place in Kent there is more room and more air given to dogs in up-to-date breeding kennels than will be found in many of the cottages in the village; indeed, the labourers' cottages are mostly gardenless and in the main street. All this misery is caused because in the landlord's greed he grudges every inch of ground, although land is let close by at 10s. an acre!

This illustration of the Eynsford cottage on next page shows the sort of dwelling-house which is contemplated in the scheme of the Eynsford Overseers, formulated for the purpose of enabling labouring men to acquire their own freeholds. The house consists of four rooms, viz., living-room, two bedrooms, and a small kitchen, but as the kitchen, in practice, is used as a living-room, the larger apartment originally designed for a living-room answers as an extra bedroom.

This house was built by contract for £102, but not including fencing, cesspool, well, and outhouse, so that the total cost was about £140 to £150, without the land, of which there is about one-sixth of an acre. Mr. Edmund Bowyer, of Bloomsbury Mansions, was the architect.

The experience gained in the construction of this cottage has shown that the accommodation can be improved considerably without increasing the cost. The following copies of my letters in the *Times* of November 13 and December 4 show that plots of the value of £10 are contemplated where valuable building sites are not in question. The letter of December 4 clearly shows what is gained by affording men good gardens round their cottages (not allotments). Had this industrious man who is quoted been forced to continue in his gardenless house he would have lost over £100 in the last seven years, and his dozen children would have grown up ignorant of gardening, poultry-keeping, and bee-keeping.



A Labourer's Freehold Dwelling.

In conclusion, I quote the well-known line, but slightly altered :—

"Mischief is wrought by want of thought,
And *also* by want of HEART."

—E. D. TILL, *Eynsford, Kent.*

"A RURAL HOUSING SCHEME.

"*To the Editor of the 'Times'* (Nov. 13).

"SIR,—Since you were good enough to publish my communication on September 28, and the details of the Carpenter Company's competition for cheaply constructed dwellings on September 29, I and my fellow-overseer of this parish have worked out a scheme which I trust will partially solve, so far at least as this district is concerned, the hitherto ever-present housing problem.

"I do not pretend to say that the scheme will apply except in districts where labour is in good demand, and men earn, comparatively speaking, high wages. We have proposed to our Parliamentary representative, who owns virtually the whole of the available land in the parish, the purchase from him of a two-acre plot at each of the four points of the compass on the outskirts of the village, where valuable building sites are not in question, and considering the purpose of the experiment, he shall sell it at £50 an acre. (Rents range from nothing per acre—much being on the landlord's hands—up to 30s. for the best land.) We propose to divide this up into fifth-acre plots for one-story, detached, cheaply-constructed bungalows, of which already a good example exists just outside the border of the parish. For £150 a man should be able to buy his plot and build his bungalow. The interest on this sum advanced at 3 per cent. would cost 1s. 9d. per week: rates, repairs, water, fire insurance, 1s. 3d. per week—together, 3s. per week.

"To secure repayment of the advance a man of forty, for instance, could, if a good life, insure by for endowment policy £150 payable in twenty years, or at death if prior, costing 3s. per week. Thus, for a total charge of 6s. per week — no more, mind, than is being paid in the district for four-roomed terrace houses without gardens worthy of the name and without any prospective advantage, save that of being turned out at a week's notice, for no more, I repeat, than men do, and therefore are able to pay—they can at once buy (supposing, of course, that we get the land, and 'there's the rub') their own freeholds, build their own cottages, and, what is of the utmost importance, insure their lives in the bargain! Many men, alas! pour 6s. down their throat every week of their lives; for such, I need not say, the overseers' scheme will not avail.

"I maintain that by creating these freeholds we shall attract, and also attach, a superior class of labour, desperately needed by our farmers and fruit-growers, and, I believe also, that we shall thereby be more independent of the nomad class of labour which is a most undesirable element hereabout in the fruit season.

"The scheme contains nothing novel, and the wonder to me is that it has not been possible in the past. It will encourage thrift, and partakes in measure of the principle of an old-age pension, inasmuch as a man will be providing for a house over his head in his declining years, or, if he die, for his widow or his children.

"Good hands are constantly leaving the district for lack of houses. On Friday last, at the overseers' audit at Dartford, the auditor remarked to me that 'we were fortunate in

having no arrears nor any loss of rates during the half-year,' and with wonder he exclaimed, 'no empty houses!' I replied, 'Unfortunately it was so,' and when he understood my meaning he agreed with me, as every sensible man must.—Yours faithfully, E. D. T."

"*To the Editor of the 'Times'* (Dec. 4).

"SIR,—Adverting to my own and the Carpenters' Company's letters published in the *Times* of September 28 and 29, also the rural housing scheme in your issue of November 13, I regret to say that our Parliamentary representative, who controls all the land, declines point blank to sell a scrap of it for the purpose we propose. In the mean time we remain under the ban of the Local Government Board, who recently instituted an inquiry and pronounced our housing conditions a standing danger to health!

"Cottages would be built at once if we could only procure the land. Cottages, moreover, are an absolute necessity for the welfare alike of the labourers and the tenant farmers who employ them. The best hands will not stay because of the paucity of cottages. In 1893 I purchased frontage land here that thrifty workmen might build houses, and several seized the opportunity. One labouring man with a large family left a gardenless house to rent a cottage built on this land, where there was a large garden, and started. The other evening I asked to see his books, and, to my delight and astonishment, I found bees and fowls had paid the rent. Here are the figures:—

—	Bees.	Poultry.
In 1894 the net profit was (not charging labour)	—	£3 13 4
,, 1895	£2 7 8	4 14 4
,, 1896	6 14 4	12 16 1
,, 1897 [Note.—About this time	3 12 9	9 4 7
,, 1898 he hired from me an additional 20 rods of ground for his fowls.]	8 11 4	15 11 10
,, 1899	5 2 11	18 10 11
	£26 9 0	£64 11 1
	£91 0 1	

"I have shown conclusively that for 6s. a week a man of forty can buy his plot (no, I am wrong, I am reckoning without my M.P., I ought to say 'could, would, or should buy'), build his bungalow and secure a life endowment policy for £150 in the bargain.

"Land can be obtained in two contiguous parishes, but imagine an overseer building and so reducing rates in a parish not his own! This, unfortunately, is our only alternative, short of compulsory purchase. What are we to do?—I am, sir, yours faithfully,

E. D. T."

Echoes from the Hives.

Wooler, Northumberland, December 25.—Christmas day! and bees flying fairly strong at 9 a.m. This they continued to do merrily till 2 p.m., when the wind became boisterous and cold, and bees took shelter from it inside the hives. We have had some very high wind of late, but no damage has been done in my apiary. All colonies are strong so far, with stores plentiful, although rapidly diminishing, so, in order to keep all going right, a cake of candy will not be amiss on some, and they shall have it. I hope to do better in the first year of the twentieth century, although I have no great reason to complain of the last of the nineteenth. Wishing to our Editors and all B.B.J. readers a bright and prosperous New Year, both in bee and non-bee affairs.—JAS. WADDELL.

Chichester, December 31.—The past year of 1900 will be long remembered by bee-keepers as one for scarcity of honey, "with few exceptions." The spring gave every prospect of a good season, but the cold weather in later spring with wet weather in June put a damper on our hopes. Then drought set in, which spoiled all our anticipations, some stocks scarcely getting enough honey to carry them through the winter. Indeed, I find with my own stocks several are getting very short of stores through the continual run on them during the very mild autumn. In looking back through BEE JOURNALS I find in 1887 Mr. Simmins advocates dry sugar feeding with Porto Rico sugar, by placing newspapers over the tops of frames and pressing sugar firmly down on to paper. Was this ever tried to any extent; if so, with what result? If it is answerable, I take it that it has a great advantage over feeding with candy where one has a good number of stocks that require feeding at this time of the year. With good wishes to all bee-keepers for a prosperous New Year.—J. D.

Queries and Replies.

[2567.] *Keeping Bees near Dwellings. Legal Aspects of the Case.*—I enclose a small rough plan of my bee garden (where I have kept my bees for eighteen years) which may help you to answer a few questions. It is on the other side of the road to my house. You will notice that a hedge about 8 ft. high surrounds the garden on three sides and that one of equal height divides the garden into two parts; on the south side towards the allotments the hedge is 6 ft. high, the whole garden being about one third of an acre. Up to last year I had few complaints from the publican, but last summer the innkeeper was afraid of bees and got stung, and said they

caused annoyance to some of his customers, so from June 7 I worked amongst them from 4 to about 7.30 a.m., which formerly I had always done by day. This and a present when the man left quite satisfied him, and I hoped all difficulties were over. However, a fresh publican has now come, and he and his children are also afraid of bees, so I am trying, but may not succeed, to get a piece of land handy to remove them to as I do not wish to be a nuisance to my neighbours. I have about eighty hives and cannot place them in the garden where my house stands. I have suggested that I would remove the two rows of bees nearest to the "public" to the side of the garden nearest to the churchyard and put up a galvanised fence 6 ft. high close to the bees down the middle of the garden (see plan, blue dots). The hives would then be about 16 yards from the back of the "public," the proposed fence 6 ft. high (close to them), and the hedge 8 ft. high (close to back of hive), being between the bees and the said house. I therefore ask :—1. If I cannot get a suitable place to remove my apiary to, do you think that if I only worked amongst the bees before 7.30 a.m. all reasonable cause of annoyance should cease? 2. Could I be compelled to remove them if all hives were placed on side of garden nearest to churchyard, as I suggest? 3. In case persons were stung, am I liable at law? 4. Suppose a horse was stung and an accident of any kind occurred, should I be liable at law (mine are the only bees within half a mile)? 5. In the country can a person be prevented from keeping bees near to a house, and, if so, within what distance may they be kept? 6. Is there any chance of a fund being got up (I know it has been suggested in BEE JOURNAL) for the protection of bee-keepers? If so, I would subscribe or insure, if need be, to cover any expense I might be put to. Any information or advice would be most acceptable to—CONSTANTER, *Leighton Buzzard, December* 21.

REPLY.—1. If you are at all skilled in the art of keeping the bees under control when manipulating, the precautions proposed should serve to reduce the risk of annoying neighbours to a minimum. The result, however, largely depends on the bee-keeper himself. One man will do his work almost unobserved, while another will disturb a whole neighbourhood when removing honey. 2. This would certainly be helpful, and leave plenty of distance between the bees and your neighbour's house. 3. Yes; if bees are a proved nuisance and inflict damage, you are liable. 4. Read the "Basingstoke Bee-Case," as reported in B.J. of August 16 last year (page 322). 5. There is no distance "fixed" by legal enactment. 6. Refer to page 2 in this issue.

[2568] *Specific Gravity of Honey.—Re-liquefying Honey.*—Please kindly inform me:—1. What should be the specific gravity of pure English honey? I remember during the "aquarium" fever some forty years ago using a bulb of blue glass which told us whether our sea water was of the standard specific gravity or not. Is such a bulb obtainable for honey, and, if so, where? 2. By what test (other than taste) can it be known whether a specimen of clear honey has been "liquefied" after having granulated, or has not been tampered with? My own experience is that "liquefied" honey does not granulate again, but throws to the top an oily substance which can be poured off. Some chemical change, therefore, must have taken place, the detection of which ought to be possible. All purists must be grateful to you for giving us a test for the detection of glucose in the B.B.J. of December 20.—C. C. JAMES, *Wortham, Diss, December* 20.

REPLY.—1. The specific gravity of ordinary British honey of average quality is 1·350. 2. Only by chemical analysis, which would show the effect of heating on any pollen grains found in the honey. It is a mistake to suppose that honey is seriously, or even appreciably, damaged by reliquefying, if carefully and properly done. In America the wholesale bottlers of honey nearly always reliquefy it when jarring off. We hope to print an article on the subject.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. WHITE (Hillingdon).—*Removing Honey in January.*—We shall require more definite particulars regarding the honey before offering advice how to remove it. Are the "three skeps full of honey" supposed to be straw supers placed above skep hives as surplus-chambers, or are they set above frame-hives? On receipt of a line in reply we will help you if we can.

Bee-doings in Cheshire. — A correspondent writing from Congleton, Cheshire, on December 31, says:—"A few bee-keepers in this town would be very pleased to see a few notes on the doings of bees in Cheshire if it is possible to get such in the pages of B.B.J." For ourselves it is only needful to say that we should be very pleased to insert any "notes" sent for publication. In the meantime we will draw the attention of the Hon. Sec. of the Cheshire B.K.A. to the subject.—[EDS.]

*** Having had several applications for the address of Mr. A. Forbes, the writer of the letter on "Rural Industries" (4175, page 428 in B.J. of December 20), it may be well to say that if Mr. Forbes wishes us to send his address to all applicants we will do so, but pending this we are not warranted in giving the particulars asked for.

Editorial, Notices, &c.

FORMATION OF A CUMBERLAND B.K.A.

A meeting of persons interested in bee-keeping was held on Thursday, December 20, at the Globe Hotel, Whitehaven. The following persons attended:—Messrs. John Vicars, Ghyllbank; J. Lister, Ravenglass; W. Barr, Hycemoorside, Bootle; R. Chorley, J. Walker, J. Dixon, and I. Mossop, St. Bees; J. Woodall, Waberthwaite; and Marsh, Waberthwaite.

Mr. Vicars explained the object of the meeting, and proposed that a Beekeepers' Association for the county of Cumberland be formed. There were similar associations in connection with other counties, and what had done good for other counties ought to do good for Cumberland. He explained that he had received letters from several persons from the north of the county who were willing to join if the association was formed.

The motion was carried, and it was agreed that the association be called "The Cumberland Bee-keepers' Association."

Mr. Vicars said his idea was that the county ought to be divided into districts, similar to what the County Council were doing in their technical education scheme.

After several rules had been submitted to the meeting and passed, it was unanimously decided that Mr. Vicars be appointed the Secretary up to the time of the general meeting of the members, which was fixed for April next. It was agreed that Lord Muncaster be invited to be President of the Association; that the subscription of members be not less than 2s. 6d. per annum; and that those present form a committee to act until the general meeting is held.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4196] The wrangle of a year ago as to when the century began has luckily been reduced to a minimum, and now that we have crossed the threshold of the year 1901, we can feel certain of being actually in the twentieth century. Nor can those of us who have passed the meridian of life help feeling a certain amount of sadness when we realise the to us, rapid march of father Time as the accumulating aggregate of years that lie behind recur to the mind. But since no good can come from contemplating on the past with vain regrets, rather let us be thankful for the many evidences of progress in the industry of bee-keeping chronicled in the twenty-eight volumes of the B.B.J. now completed. Wonderful indeed has been the advance in methods of bee-keeping and the system of preparing the product for the market. The bee-hive of 1800 was practically a sealed book, only a very few of the scientists of those days possessing more than the most rudimentary knowledge of the interior economy of the hive. To-day, the modern observatory-hive is as an open book, type-written in the boldest characters. The output of honey from a modern hive is another evidence of progress. The old straw skep was, in most instances, of fixed capacity, and the bees had to swarm in order to increase the honey harvest; hence the joy and excitement of the old style bee-keeper at the issue of his swarms, "smarts," "casts," "chits," and "maiden swarms." This rapid increase of stocks raised his hopes of a good honey harvest which in some seasons were realised; yet the accepted average of good honey years was one in seven—so that the straw skeppist would probably see six or seven good seasons during his lifetime! How different the case now. Instead of one good season in seven we get fair returns nearly every year. Any way, late volumes of the B.J. show that we have not had an all-round season of real failure since 1888. Results differ in contiguous districts, I admit, but there are other reasons besides the weather and crops why our hopes are sometimes not realised more abundantly.

The immediate future also holds out good prospects and brighter times for bee-keepers, seeing that the stock of honey in the country will be cleared out long before new honey of 1901 is available. The same condition of things exists in America, where stocks are low and prices ruling higher.

This brings to mind the question, what are we British bee-keepers doing with regard to prices? I notice in the advertisement columns of B.B.J. that honey is offered at about last year's prices. Surely there is something wrong here? In my opinion we ought, in common fairness, to realise a better price for our produce when it is scarce than when there is an abundance. I myself have advanced prices 1s. per dozen for sections, and sometimes more for those of selected quality.

Proposed Narrow Sections.—I notice our good friend, the Rev. Mr. Lamb, has (on page 505) broached the subject of a different shaped section for comb-honey—something that will fit in shallow-frames. Does our friend intend these boxes of hanging frames to be worked with or without dividers? If with dividers, where would be the advantage over

the ordinary section-rack? I grant that shallow-frames are taken to by bees more readily than the ordinary section-rack, because the former generally contain ready-built combs and have no dividers. The dividers, so necessary to ensuring good work in comb-honey, must of necessity separate the bees into small clusters when they are secreting wax; but, as I said before, if we place the proposed new size sections in shallow-frames, we shall be compelled to use dividers in order to maintain the present high standard of bee-work. Therefore, although our reverend friend's experience as a bee-keeper lends weight to his suggestions, yet I question if we should very much increase our output by adopting a narrower section than the present 2-inch one. If we examine a colony of bees located, say, in the corner of a house-roof, or in any cavity in which there is a super-abundance of room for comb-building, we will most probably find (as so many of us have found in straw skeps) that the brood-combs are built of the required thickness for brood, and that the outside or store-combs are built somewhere about 2 in. thick. Thus it is seen that, excepting the confined space in the section-boxes, we impose no unnatural conditions in, as it were, compelling the bees to build combs for honey of the width in the ordinary 2-in. section. I myself made a trial of Blow's narrow sections some dozen years ago, and I then found that these narrow sections still further restricted the small chambers in which we compel the bees to work. Possibly the result might have been different had the sections been such as we use now—or the no-bee-way—and suspended in a hanging-frame, to which the dividers were fixed, because by giving a full bee-space they would be better filled in some bee-keepers' hands. We should, however, need either very thick dividers or else some with projecting pins, which would not impede the free travel of the bees from section to section across the super.

I conclude by wishing, with the utmost cordiality, to all bee-keeping friends a happy and prosperous New Year; and it will enhance my own happiness if any contribution of mine to the pages of the B.B.J. has helped to promote the prosperity of those I am delighted to regard as brother bee-keepers.—W. Woodley, *Beedon, Newbury.*

AN OBSERVATORY HIVE.

MY SECOND SEASON'S EXPERIENCE.

[4197.] It may be in the memory of some readers of the B.B.J. that an account of a season's experience with an observatory hive was published in February last. A few notes of what was seen and done the following summer are now supplied, and to avoid repetition I beg to refer any one interested to my previous contribution, pages 66 and 76 of the British Bee Journal for 1900.

As a change on the Ligurians, I established a colony of English bees in the middle of May, headed by a very dark queen of the previous year. They prospered and multiplied, and soon started what may be termed trial queen-cells—those that resemble acorn cups, and are built on the face of the comb. They seem to afford the bees much pleasure; the workers are constantly busy on them, but the cells hardly ever come to anything. Of a kindred nature are the obviously futile short holes made by rabbits, or the nests that some birds are in the habit of building before they settle down to regular work. Wrens especially build such nests, and it is said that the cock bird inhabits one while the young are being reared in the family brood-nest. Three queen-cells of the usual type soon appeared, and at about the time of hatching the bees made an effort to swarm. The queen, however, failed to find the exit. She showed great excitement for a while, but by evening all was quiet. Next morning one queen-cell was in course of being demolished, and the following day the other two disappeared. I could not see that the queen took any part in their destruction, but she may have done so during the night. Six sections only were completed. By the end of August the colony had become uninteresting, and as the bees would not work on fresh foundation, I transferred them to winter quarters.

I could detect no racial distinction in the habits of these English bees as compared with their more showy Italian cousins, except that, as usual, the capping of their sections was both smoother and thicker, and in consequence of the latter quality it looked whiter. The queen was brisker in laying than her predecessor, her average time in depositing the egg and getting clear of the cell being 18 seconds as against 30. On the other hand, she was more deliberate in the preliminary cell examination, so that the total difference was not very remarkable. My conclusion as to the number of eggs deposited by queens in twenty-four hours remains unaltered, for the reasons previously given. This queen also, when possible, turned her head downwards in laying. Her eggs as far as observed were always laid singly, one in a cell.

Fancy combs were again built on the glass with the same pleasing irregularity, and in one of these comb-cells I had the good fortune to be able to watch the gradual development of a drone-grub into the perfect insect. The cell was nearly horizontal along the glass, and was open to view from its mouth to a point a little above where the rhombs angled off to form the base. The grub when I first saw it had been sealed in, and was still, as far as I could see, in a state of rest: in appearance it was merely larval. The process of transformation was so very gradual that it would be useless to attempt to describe it in detail. It can be more accurately studied by any one who will

take the trouble to uncap larvæ at various ages and examine them with a pocket lens than is possible when observation has to be made through two thicknesses, or even one, of glass. Moreover, an admirable description of the metamorphosis can be read in Mr. Cowan's "The Honey Bee," page 158.

The first thing noticeable was a general wrinkling of the skin, with signs of a neck and waist being formed. Then very slowly a vague outline of limbs and wings was formed, so gradually that you could not say how it was being done. There was something ghostlike, something quite uncanny, in this constant motionless development. Day after day the pure white nymph lay perfectly still on its back ; no sign of life, no change of colour. At last, on June 18, the head began to colour purple. Next day it darkened a little, and the body showed slight signs of colour. On the 20th came the first sign of life. At first a slight motion of the head from side to side ; later in the same day the legs began to move a little. On the 21st the body had become generally darker ; the wings were tinged towards the points of attachment, but the nerves remained quite white. That morning the insect—for it was by then to all intents an insect—began to push with its legs, while the head moved more frequently from side to side. Life was coming fast. By noon it had turned itself right over, and for a while lay on its belly, after which it turned back again and rested. In a short time these movements were repeated. The thorax had by this time become very dark, and hairs were now visible all over the body. At night the insect looked very like a drone, and by the next morning, the 22nd, the tomb was empty, and worker-bees were busy polishing it up. From the time the young creature showed signs of life workers had been very busy at the capping of the cell, but I could not see that they did anything towards freeing its inhabitant.

The little game of "chiveying" which I described in my former letter was again very popular in my hive, and I was amused to observe it being indulged in by some bees on the outside of a swarm-cluster one day when I was looking for the queen.

I am inclined to believe that bees cannot continue in health in a hive temperature over 90 deg. Fahr. Last year I noted signs of discomfort when the thermometer showed 92 deg. This season, when the drone-grub above mentioned was first descried, I feared that it might become chilled in its position against the glass. I therefore kept on the lined shutters of the hive as much as possible day and night, and the thermometer was generally in the neighbourhood of 92 deg. Bees began to die, and before long had done so in such numbers that I had in the end to take off the glasses from one side of the hive and remove the corpses, hundreds in number, the bees being no longer able to cope with them. This done, and on my ceasing to use the shutters, the mortality ceased at once and the hive remained perfectly healthy. The ventilation was good all the time, though perhaps somewhat interfered with towards the end by the accumulation of dead bees. I conclude, therefore, that these were killed by the constant heat. When in an ordinary hive the temperature from any cause rises to an uncomfortable heat, say 90 deg., the bees leave the hive ; sometimes, as many must have noticed, hurrying out ; and they remain outside until the heat has become bearable. The construction of an observatory hive, especially with the glass-covered exit passage that I have adopted, makes this exodus inconvenient. The bees remain to a great extent in the covered way.

This year arrangements had been made to secure plenty of drones, and I was able to study the method adopted to get rid of them. The first sign of it was that here and there a worker climbed on to a drone's back and nibbled at him in a playful way for a few seconds, generally at the base of the wings. The drone would shuffle on an inch or two and apparently think no more of it. In a few days these attentions became quite spiteful, and soon workers could be seen hanging on like little furies to the poor drones, and dragging them with many an indignity to the entrance. Sometimes a drone would force his way back ; but in the end the unfortunate males had been so worried and hustled, that they became disheartened and no longer dared attempt to return. Doubtless they soon perished from cold and hunger, for the drone consumes much food, and is, I should imagine, quite incapable of procuring any outside the hive. As to workers stinging the drones, I saw no sign of it ; not only would it appear to be unnecessary, but there would be some risk to the worker in attempting it. In the unkindly office just described the same want of unanimity to which I formerly alluded seems to obtain amongst the workers. The greater number of these do not attempt to molest the drones. During the period of bitterest persecution I actually saw a worker feeding an expelled drone in the covered way near the mouth of the hive.

It has often been observed that the drones pack together in corners of the hive when their time of tribulation begins ; but the packing seems to be a habit of theirs at any time. Early in the season one might see as many as thirteen or more drones packed closely together on the comb. Perhaps two or three workers among them, but all the rest of the cluster were drones.

Propolis was carried in largely towards the end of the season, and again I saw a bee itself laden with it nibble off a piece from the load of another and chew it as it walked above the combs.

It is stated in our most valued books of instruction on matters apiarian that bees clean their antennæ by working them through the

comb arrangement on the opposite forelegs; thus the right antenna is said to be cleaned by the left foreleg, and *vice versâ*. Far be it from me to suggest that this is not correct; but it is by no means invariable. I have often seen bees cleaning an antenna by means of the leg on the same side. This can best be observed with drones. For obvious reasons they are very particular in grooming their antennæ, and they are also slower in their movements than the workers. Or if any one will offer his finger to a worker bee which has come into a sitting-room in the spring or autumn, and which has become somewhat chilled, the bee will willingly climb on to it. Offer a drop of honey; out will go the little tongue like a flash, and in a few moments the drop will have disappeared. Then our little friend will begin to clean its antennæ, and with your finger close under your eyes the process can be clearly observed. It is quite probable that it will be seen to take place in the way I have described.

This concludes my observations for 1900. The observatory hive has again been such a pleasure to me that I hope some of your readers may have profited by my advice and have started their own observations. I have a fine Cyprian queen ready for next season.—SOUTH DEVON ENTHUSIAST.

"COMMERCIAL" GLUCOSE AND HONEY.

[4198.] In your "Useful Hints" of December 6 (page 475), when referring to "Cane Sugars for Bee-food," you say, "The present feeling of alarm roused in some parts of the country by the agitation in the Press, on the subject of arsenical poisoning through drinking beer in which sulphuric acid has been used in the process of manufacture, will, of course, possess no special interest for bee-keepers beyond other folk."

But I would say the matter does possess very special interest for bee-keepers, for at the bottom of it is to be found the cause of the low price of honey—of pure honey.

I am a regular and most interested reader of the BRITISH BEE JOURNAL and *Bee-Keepers' Record*, in both of which papers, the low prices now ruling for honey have been discussed and it has always been apparent that behind it all there was some real cause for these bad prices for bee-keepers. The cause is not far to seek—it is the enormous amount of adulterated honey that is put upon the market—honey so heavily adulterated with "commercial glucose," that it is difficult to know where the honey is in the compound. And to think that bee-keepers should be suspected of this adulteration!

Do we not all read with interest the official statements supplied to the BRITISH BEE JOURNAL of the quantity of honey imported into this country? And do we not all know that most of the stuff imported as honey is not honey at all, but a compound of commercial glucose with more or less honey? We have also been warned, more than once if I mistake not, that this "compound" is not worth 3d. per lb. There is no doubt also that great quantities of this same compound are made actually in this country, and put upon the market as honey and sold as honey.

This mixture—so-called honey—is clear and liquid, varying in colour from dark to pale golden, and so vitiated is the public taste, that I have been told by the manager of a large establishment that the public prefer this stuff to pure honey—in fact, he added, "I prefer it myself." Of course, he buys it cheaper, and if the public that he caters for like it, why should he provide the real article at higher price? He does not realise that the price he does pay for this imitation honey is more than double its commercial value.

The largest buyers of honey—the wholesale chemists—who take samples from bee-keepers direct, know very well what pure honey is and how to obtain the best. They use it in various ways, in syrups, cough mixtures, &c., and they pay 54s. to 60s. per cwt. The bottling firms also do a large business in the same way, and I have not been able to trace any adulteration to them.

It does seem extraordinary that the actual consumers, *i.e.*, the public, who use honey as a table delicacy, should be so ignorant and undiscerning as to prefer the liquid stuff manufactured in Switzerland, and the other various compounds of commercial glucose, to the exquisite flavour of pure honey.

Many persons do not know that honey becomes solid as it loses heat, but imagine that there are two kinds of honey outside the comb, a liquid and a solid kind. They do not understand that what is liquid in summer becomes solid in winter.

But now is the time for bee-keepers to publish abroad the difference between pure honey and the adulterated article.

It is this competition with the latter that brings down the price of pure honey. The bee-keeper is, I think, himself to blame in this matter. He encourages the misunderstanding as to pure honey granulating or becoming solid by warming his honey in order to clarify it so that it should not be seen in the solid state. But he thus destroys the special aroma and flavour, and renders it to the palate not much finer in flavour than the adulterated article.

The shows also encourage the same thing, for by the month of October most pure honey is solid, and some of the best granulates the soonest. If the public prefer liquid honey, let them melt it for themselves; it melts easily, though it solidifies again easily.—A. G. LEIGH, *London, N.W., December* 18.

THE EYE OF THE BEE.

[4199.] Science teaches many strange facts which to the common comprehension seem to border on the region of fable. Abstractly considered, they are too technical and dry-as-dust for most readers, but many of them are capable of being described in language "understanded of the people." The eye of the bee is a case in point. Man has to be content with two eyes, and might get on tolerably well with one if the necessity should arise. Many insects are more bountifully provided with eyes; thus, most spiders have eight. Such a wary fellow, ever on the alert, requires to be well provided. Our friend the bee has five. The unscientific reader would open *his* eyes very wide, I guess, if I added two cyphers after the five, and would be apt to use an uncomplimentary expression if I added another and third cypher. Yet such is the plain and simple fact which science reveals to us.

Let me, however, deal with the five. These are patent even to the casual observer, and can be seen without the aid of even a pair of spectacles. Drones, queens, and workers alike have two large eyes occupying the greater part of each side of the head. These are the *compound* eyes. They are large in the drone, smaller in the queen, and smaller still in the worker. The duties and functions of the drone require the very highest development of these optics, and accordingly we find his eyes extending so that they meet on the vertex or crown of the head. In addition to these two eyes each of the three classes of bees has also three *simple* eyes, known as ocelli. These form something like the points of a triangle, but in the case of the queen and worker they are placed on the top of the head, while in the drone they are more to the front and much closer together.

In regard to their functions, it is now generally considered that the simple eyes are used for the observation of objects close at hand, and that they are especially suited to the darkness which prevails inside the hive.

In the compound eyes there are thousands —as many as 5,000 have actually been counted —of hexagonal lenses, *all really separate eyes*, so that my statement about the number of eyes a bee has was well within the mark. All of these separate eyes are joined together, but look in different directions to all points of the compass. This is a very important point in insects like the bee. All of them receive separate and individual impressions forming one distinct picture. One image is formed out of all the different and diverse scenes depicted. The image impressed is, in fact, a mosaic, and the combination of the separate impressions forms the picture. Thus the field of observation is comprehensive, yet minute, and therefore bees can make their way straight home to the hive with marvellous exactness from their most distant points of flight, and can single one white dot amongst a multitude as that which bears the magic name *home*. Straight as can be—a bee-line has become a proverb—they fly from the far-away fields where they have been foraging, make for their own domiciles with unerring accuracy, and arrive without doubt or hesitation at their true destination, never making a mistake of even a yard in the point for which they have started. Even when we have shifted their home a yard we find their unerring course of flight brings them back to the old spot. Only an organ of the most perfect mechanism could perform so important a function, and this we find in these compound eyes. A bee-line means a straight line from a given point to another at a considerable distance, but does not imply that the insect dashes forward regardless of whatever obstruction may be in the way. Woods, heights, and other natural barriers may intervene, and the wise creature, describing an elliptical line from its point of starting, rises gradually, sometimes to a considerable altitude, again descending as it nears its final point of desire. Instinct, no doubt, teaches it to some extent where to make for, but it trusts mainly to its wonderful power of vision to guide it true to the goal it seeks.

Marvellous as is the power of these compound eyes, the structure and functions of the simple eyes are no less wonderful. If we consider the fine and delicate operations, manifold in their duties and varied in their scope, performed by these small and sensitive optics in the interior darkness of the hive, we cannot but view them with wonder and admiration. In that (to us) dark interior, operations of architecture and construction of the most chaste and delicate nature are carried out with mathematical exactness and regularity. Add to this the care and devotion they bestow on the young from the time it is an egg till it becomes a perfect insect, the order and regularity they observe in every movement necessitated by the duties incumbent on all by the regulations of the internal economy of the hive, and we see a wonderful adaptation of means to an end in these simple eyes. Observe the orderly and regular movements going on in a colony whose hive is quietly opened; light or darkness seems to be all the same to these wonderful eyes which serve so wise a purpose to their owners.

Note, as I have already observed, the difference between those of the drone and the other two orders. The male, as is well known, performs no function in the internal organisation of the hive, so then his stemmata are different and more suited to outside work and close observation of the queen when the one duty of his life requires all his energies to be concentrated. So his "simple eyes" are all three arranged in front of his head exactly where they are most required and where they can perform their duty in the highest degree of perfection. The term "simple eye" is however

scarcely correct for it has been demonstrated by several German scientists that they are really faceted similar to the compound eyes. Verily the eye of the bee has been strangely and wonderfully made.—D. M. M., *Banff, N.B.*

ANCIENT BEE-BOOKS.

[4200.] In thanking you for the insertion of my letter in B.J. of December 13, I beg to explain, with reference to your editorial footnote, that in my copy that part of the Rev. A. A. H.'s notes happened to be rather illegible, and I thought I read that Butler's first edition appeared in 1604, in lieu of 1609. I am much obliged to you for correcting my error. On this occasion may I point out that on page 178, B.B.J. of February, 1877 (vol. 4), there appeared a very interesting article on the "Rev. Chas. Butler and his Teachings," by Mr. George Henderson, Ealing.

By giving publicity to my above-mentioned letter in your esteemed journal, you encourage me in responding to the request of the Rev. A. A. Headley to assist him in throwing light upon several other old books.

I have in my possession Samuel Purchas' book "A Theatre of Politicall Flying Insects, 1657" (which once belonged to William Hanbury, Esq., of Kelmarsh, in Northamptonshire). As to the authors cited in this book, and by the Rev. A. A. H., viz., Hill, Remnant, Muffet (or Mouffet *not* Musset), Googe, Levit (?), Lawson, and Southerne; I possess the first two authors cited and *perhaps* Levit. (This "perhaps" I will explain further on).

I beg to note hereto:

Hill.—The following is a copy of the title-page of this book:—"A profitable instruction of the perfect ordering of bees, with the marvellous nature, property, and gouernement of them; and the necessary vses, both for their Honnie and Waxe, seruing diuerslie, as well in inward as outward causes; gathered out of the best writers. To which is annexed a treatise, intituled: Certaine Husbandly coniectures of dearth and plenty for euer, and other matters also meet for husbandmen to know," &c. By Thomas Hill, Londoner. Imprinted at London by Edward Alde, 1593; 92 pages.

This book once belonged to Mr. Edward Scudamore, M.D., Canterbury, from whose collection I possess six volumes of Manuscripts on Bees, and several books derived from his apicultural library. On the first page of the book in question he wrote as follows:—"This book was written by *Georgius Pictorius*, M.D., anno 1569; and translated by *Thomas Hill*, of London. (See Butler in his preface to the Monarchy of Bees.")

On the last page of this book Mr. Scudamore also writes: "Butler in his preface to his book on Bees, says: this book of T. H. is translated word for word from a treatise written by Georgius Pictorius, a learned Physician who deserveth best, as having taken most pains in perusing the ancient authors, and gathering their Matter into his Method. T. H. has concealed the Author's name, and published it in his own."

I find this passage in the preface of all the four editions I have, English and Latin. It seems, therefore, that this author (Thomas Hill) was a mere plagiarist.

Remnant.—The following is a copy of the title-page of this book:—"A discourse or Historie of Bees, shewing their nature and usage, and the great profit of them. Whereunto is added the causes, and cure of blasted Wheat. And some remedies for blasted Hops, and Rie and Fruit. Together with the causes of smutty Wheat: All which are very useful for this later age. Written by *Richard Remnant*, London. Printed by Robert Young—for Thomas Slater, dwelling in duck lane, at the white Swan—1637."

Unfortunately, I was cheated when purchasing this book. Having paid a very considerable sum for it, I found, on receiving it from abroad, that it only contained twenty-eight pages, whereas the index shows the last chapter to be on page 44.

Levit.—I presume that the orthography of this author's name was incorrectly spelt by *Purchas*. My book has the title-page as follows:—"The ordering of bees, or the true history of managing them from time to time, with their hony and waxe, shewing their nature and breed. As also what trees, plants, and hearbs are good for them, and namely what are hurtfull, together with the extraordinary profit arising from them. Set forth in a dialogue, resolving all doubts whatsoever. By the late unparalleled experience of *John Levett, Gent.*, London." Printed by Thomas Harper for John Harison, 1634. Seventy-one pages.

Finally, I beg to be allowed to return to *Purchas*—"A Theatre of Politicall Flying Insects." On page 102 of this most valuable book we find the quotation cited by the Rev. A. A. H.—"The knowledge of bees was never truly communicated to the world by any but Englishmen."

I am sorry to have to state that this is not quite correct. Purchas himself cites amongst others on page 32, T. Cantipratensis—"Bonum Universale de Apibus"—a very celebrated book written by Archbishop Thomas of Cambray, born near Brussels in 1186, died in Cambray, 1263. I happen to possess several editions of this book, as noted below:—

(1.) *Thomas Cantipratensis*, "Liber de Proprietatibus Apum." Colonia. Gops, 1473. Folio. 164 leaves.

(2.) Translation in Dutch. Second edition. Leyden, 1515.

(3.) "Liber Apum, aut de Apibus mysticis sine de proprietatibus Apum." Paris, 1530.

(4.) "Bonum Universale de Apibus." Duaci (Douai), 1597. 586 pages.

(5.) Same title. Duaci, 1605. 597 pages. Annotationes, 86 pages, and index.

(6.) Same title. Duaci, 1627. 594 pages.

Annotationes, 176 pages, and index.—E. DRORY, 18, *Gitschiner Strasse, Berlin, December* 17.

BEE-KEEPING IN SCHOOLS.

[4201.] I admire the contribution of "F. E. I. S." (4190, page 3) in last B.B.J. I am told that in Leeds they are issuing small cabinets of apiarian objects for illustrating bee-keeping lessons. It is to be hoped that these cases will not be hung on the school walls, as constant familiarity breeds contempt in the minds of children.

Schools are now presented with trade exhibits under the flimsy pretext that they are educational. So they are, in that youngsters are taught to remember the donor's brand for life! It is discreditable that public institutions should thus become a prey to low advertisement. Were I autocrat at Whitehall I would collect all these "transparent cases" in a heap, and when the proper day in the calendar came round, consecrate them to the memory of St. Guido Faukes, with nine-tenths of the so-called educational pictures that disgrace school walls.

"F. E. I. S." is right in the sparing use of his class-book, but few can afford to do as he. Present-day teachers are stuffed so full of "book" that their "understauding is unfruitful." It's a fact, and a lamentable fact too. We now need a man of the "F.E.I.S." type to run evening continuation classes; reading-room, and library (population 1000); there are premises vacant, and snug cottage, with good garden, all under the walls of our old Norman castle. A very small salary; but it would just suit a large-hearted man—

"A man to all the country dear,
And passing rich on forty pounds a year!"

I wonder whether this portrait bears any resemblance to "F.E.I.S."? Scotch salaries are generally small.—E. D. TILL, *Eynsford, Kent, January* 7.

P.S.—We have quite a number of Scotch lads and lassies hereabout, and they're bonnie lassies, too. I only add this in case "F.E.I.S." is young and still unattached! Unfortunately for me, I am old.

THE WEATHER.

[4202.] Truly "It's an ill wind that brings no good." The very mild—I might say *unseasonable*—weather prevailing till the end of December caused many vegetables to get quite beyond control, and some of them will, as a result of continued growth—instead of being in a dormant and more hardy state—perish, now that severe weather has come suddenly upon us. But had it been otherwise—*i.e.*, had the weather in the late autumn and early winter been cold enough to confine the bees to their hives—the cause for dreading a general outbreak of dysentery was never greater. I say this in view of the fact that there were very few hives at the beginning of the winter that had not a quantity of unsealed stores. After the corn was harvested many farmers sowed mustard as a "catch crop." This was invaluable to bee-keepers who were fortunate enough to have their hives near the mustard in October and early November, as the weather turned cut. Had the weather turned very cold as well as wet during the last two months, what was so helpful would have been a veritable death-trap to the bees. In other districts the ivy blossom yielded a quantity of honey in late autumn. We cannot wrap the bees up a bit extra warm and feel certain that they will seal over their stores as we would have them do, because if they cannot get the newly-gathered honey sufficiently ripened they won't seal it over. In fact, we cannot take it for granted that bees will do a certain thing simply because they have done it before, or because we have given them the material to do it with. This shows that in bee-keeping we should not leave anything to chance. I think the very uncertainty of much pertaining to bee-keeping adds interest to the pursuit. As bees almost invariably use up unsealed stores first, and having ascertained that unsealed stores would be consumed by the turn of the day, anxiety may now be put away.—WM. LOVEDAY, *Hatfield Heath, Harlow, January* 7.

RURAL INDUSTRIES.

[4203.] I notice in this week's BEE JOURNAL that a correspondent signing himself "A Norfolk Bee-keeper" has written a reply (4193, page 6) to the questions I put in your issue of December 20 last (page 498), in which he kindly offers to "give me a few hints" through the B.B.J. Personally I should be very much obliged to him for the proffered information, which, no doubt, would be helpful to other readers besides myself if he will kindly publish it in your columns. I also see by what you say on page 10 last week that several people are wanting my address. I shall be glad to leave this to your discretion; so far as sending on letters that may be of advantage or useful to me when I have finally settled what I shall do in the matter.—A. FORBES, *Wolverhampton, January* 5.

BEE-DOINGS IN CHESHIRE.

SENDING REPORTS.

[4204.] In answer to your gentle hint *re* notes on "Bee-Doings in Cheshire," on page 10 last week, I think it would be more interesting if individual bee-keepers at Congleton and elsewhere in the county would send some "notes" regarding their experiences in the past season and at the present time for publication in the JOURNAL rather than the Secretary of the Association, over whom the shadow of the annual meeting, with its

necessary preliminaries, is now looming! I hope that those on whose behalf your correspondent wrote are already members of the Cheshire B.K.A., or will join in this year. At present the representatives of Congleton are not very numerous, and I should be very pleased to receive the names of bee-keepers there or in other parts of the county who would welcome a visit from the expert in the spring. In my own apiary the bees have been flying nearly every day, and I fear their stores must have been doing the same thing.—E. CHARLEY, *Hon. Secretary Cheshire B.K.A., Ince, near Chester, January* 4.

PREVENTING SWARMING.

[4205.] Mr. A. H. Miller, in the B.B. JOURNAL of December 20 (page 499), says:—"It is now six years since I had a natural swarm from my own bees, nor do I find any trouble in preventing my own bees from swarming."

Will he kindly give in the B.B.J. the details of his method for the sake of some of us youngsters in bee-keeping?—W. C. N., *Devon, January* 2.

REVIEWS FROM FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Praktischer Wegweiser für Bienenzüchter (Germany). — According to the *Leipziger Tagblatt*, a decided decrease in bee-keeping is to be recorded. During the last twenty years the number of colonies has decreased by about 300,000. The yearly harvest of honey on an average amounts to twenty million kilogram (kilogr. = about 2 lb.), and it is said could be increased twofold if only more apiarists would come forward. The demand for honey is greater than Germany can meet, and the imports (often of a very questionable character) amounts yearly to a gross value of two million marks (twenty marks = £1.)

The German East Asiatic Aid Committee for the Sick and Wounded has sent eighty tins of honey to China, a gift which will be gladly welcomed by the suffering troops.

In a small village called Plaugwerbach lives an old bee-keeper who is in the possession of an ancient skep dated 1767, and which carries the name of his grandmother. The same colony of bees is said to have existed in this hive all the while, as also the combs, now 133 years old.

The same paper reports that the English journal, *Church Bells*, relates a case in which a woman fifty-eight years of age, who was star-blind (*i.e.*, half blind), had her sight restored by an application three times a day of pure, fresh honey, applied after careful bathing of the eyelids.

As is well known, Pliny, the celebrated Roman naturalist of the Ancients, had many erroneous notions concerning bees. He gives expression to the idea that bees developed from the decaying remains (resp. carcases) of oxen and lions,* and that the bees never ventured beyond a limit of about sixty yards, unless compelled by hunger to do so.

The *Leipziger Bienenzeitung* reports a case in which an apiary stood immerged for twenty-four hours under water, to the extent of three-fourths, at the time of flood, and that although completely shut off from fresh air and the outer world, the bees not only survived but suffered no harm.

Paul.—"Auguste, I once knew a man who could move his ears up and down to such an extent that he could drive away bees which settled on his face."

Auguste.—"Oh, that's nothing. I once had a cousin who could frown to such perfection that he could catch drones with the wrinkles in his forehead and give them to his frog to eat."

Deutche Bienenzucht (Germany).—According to the new laws of Italy the sale of adulterated honey is made illegal. Adulteration with water, dextrine, molasses, glucose, saccharin, and any other organic or mineral substance are specified.

The *Praktischer Wegweiser* recommends as a remedy for the removal of certain flavours in honey the method of inserting a heated iron into the same and allowing it to remain in the honey for some time.

The *Gardeners' Chronicle* says that honey gathered from the sunflower is spoiled and rendered valueless by its dark, almost black, colour.

Not without reason, a writer signing himself "Méhészeti Közlöny" complains about bee-keepers who persist in continual artificial swarm-making, and force colonies made poor and weakly by prolonged queenlessness to rear queens, thereby rendering so many succeeding colonies weak and valueless. The remedy is apparent.

Queries and Replies.

[2569.] *Beet Sugar for Bee-food.*—I would be glad of information on the following points:—1. When was beet sugar condemned for syrup-making for bees? 2. What are the symptoms of ill effects arising from such use? 3. What are the causes of the ill effects? 4. Is it possible that the causes have been or can be eliminated from the sugar by improved methods of manufacturing the sugar? 5. The sugar used in jam-making is beet sugar, and is it not a fact that bees in the neighbourhood of jam factories get at the sugar and thrive?—B. H., *Cambs, January* 1.

REPLY.—1. Beet-sugar has been regarded

* As also Virgil in *Georgics*, Bk. IV.—R. H.-H.

as unsuitable for bee-food ever since it became definitely known that injurious chemicals were used in its manufacture. 2. The outward or visible symptoms of specific poisons (sulphuric acid, for instance), have, we suppose, not been considered sufficiently important for any medical scientist to enter into the subject and define them clearly for the benefit of bee-keepers. Therefore, we fear our correspondent must be content with our assurance that bees are for obvious reasons far better when fed on pure cane sugar. 3. Reply to No. 1 covers this query. 4. This is a question for a sugar refiner rather than us to answer. 5. We are not aware that bees "thrive" on the "spoils" obtained by robbing jam-factories; in fact, we should consider jam-syrup anything but suitable winter food for bees, and we hope our correspondent will not try its effect on his own stocks.

[2570.] *Locating Hives on Hired Land.*—I was a bee-keeper some years ago and am thinking of starting again. In fact, I have begun making some hives now, but I should like to make one of the "W.B.C." hives if you will give me the description and measurement of same. I am living in town, but I think of getting a farmer to allow me to put my bees on his land (out in the country about five miles from here), for a small rent. Do you think it needful to have an agreement drawn up for this, or would it be safe without?—BEE-KEEPER, *Ashton-on-Ribble, January* 1.

REPLY.—1. A full description of the "W.B.C." hive, with plans and measurements for making, appeared in B.B.J. of November 3 and 10, 1898. These may be had from this office for 2½d. in stamps. 2. It would, no doubt, be advantageous to have a written agreement when hiring land for locating an apiary on it, and to insert therein a clause providing for due and sufficient notice of any forced removal on either side.

[2571.] *Honey Escaping from Covered Pots or Jars.*—I extracted some heather-honey about three weeks ago, putting it up in pots ready for sale a week later. On reaching a pot down to sell to a customer, I found honey running all over the tops of pots, there being quite ½ lb. of it on the shelf among the pots. As this is the second winter that my heather-honey has served me in the same way, I shall be glad if you can explain the cause, and give me a remedy in the next issue of BRITISH BEE JOURNAL.—"PUZZLED," *Northwich, Cheshire, January* 2.

REPLY.—We can only suppose that the pots have been filled so near to the top edge that the cover has dipped into or touched the honey; this being so, the running over is easily accounted for, it being well known that honey will escape by capilliary attraction when once started to "run over" the edge of the receptacle containing it. The remedy is, do not fill jars so full; let the cover stand free from, or clear of, the cover; and bear in mind that if kept in a warmer place after bottling the honey will expand somewhat in bulk. No escape will then take place if the honey does not set up fermentation.

[2572.] *Loss of Bees through Floods—Best time for Buying Stocks.*—I have lost my bees through the extraordinary flood we had here on the night of Sunday, the 30th ult., and am anxious to replace them. I therefore ask:—1. What time would be the earliest you would recommend me to purchase stocks in order to get them strong for the fruit blossom? 2. If I bought now, say, from advertisements in this week's B.B. JOURNAL, could I examine bees and comb without danger of chilling queen and bees? I have always thought it was risky to even slip candy under the quilts at this time of the year, but gather from Mr. Waddell's "Echo" from his hives, on page 9, that it is wise to see how they are doing. I may add a neighbour also lost his bees by the flood, as well as some valuable pigeons. We reckon it was quite 3 ft. deeper than previous record.—F. H. BROWN, *Stechford, January* 5.

REPLY.—1. You had better defer purchasing until such time as the "spring condition" of the bees can be gauged by examination of the brood-combs. Do not depend on making the bees strong after you purchase; choose a stock already strong in hatching brood at about the end of March. 2. We should incur no "risks" of wintering by waiting till winter is over, unless a thoroughly safe chance occurred of buying a reliable stock. There is no risk in slipping a cake of candy under quilts when done by an experienced hand, but the less bees are disturbed in winter the better, and it is only "wise" to disturb them when real need exists for doing so.

[2573.] *Queenless Stock in January.*—I have a queenless colony in bar-frame hive; it is being robbed by other bees. Is it too late in season to join it up with another hive, as advised by "Guide Book," or would you leave it until spring? They have plenty of store.—JAS. POVALL, *Trefnant, North Wales.*

REPLY.—We should unite the bees on the first fine warm day, as the chances are that the stock will be "robbed out" if the joining up is deferred till spring.

Echoes from the Hives.

Havilland Hill Farm, Guernsey, December 31, 1900.—"Rain, rain, rain" is the order of the day, which is rather provoking during the festive season. Bee-keepers, however, should keep smiling; they will benefit later on by what seems a too plenteous supply at present. Plenty of rain in winter is both advantageous and essential to the soil, as it causes abundance of plant-food to become

available for plant life when required. A dry winter invariably follows a poor summer as regards vegetation, as these plant foods, being in solid form, are not available although abundant, so we should be pleased rather than despise this daily wet weather, as it all helps towards a prosperous season next year, which I wish all bee-keepers.—C. GOULD.

Ballindalloch, Banffshire, January 2, 1901. —I send a brief "Echo" about the weather. It has been the wettest autumn I ever remember, and the last month has been the *windiest*. Yet we have had no snow (a shower does not count), and really no frost up to date. My stocks went into winter quarters, excellent as to numbers, with plenty of young bees, and stores, on the whole, ample. Well, there is that qualifying phrase, and many colonies will have to be examined at an early date, and candy will be at a premium if they are to be pulled through in safety. Wishing you a happy New Year, and that 1901 may editorially be your best and most prosperous. —D. M. M.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

DECEMBER, 1900.

Rainfall, 3·57 in.
Heaviest fall, ·70 in., on 30th.
Rain fell on 27 days.
Above average, ·83 in.
Maximum Temperature, 53°, on 5th.
Minimum Temperature, 25°, on 22nd.
Minimum on Grass, 20°, on 22nd.
Frosty Nights, 5.
Sunshine, 37·4 hrs.
Brightest Day, 21st, 5·5 hours.
Sunless Days, 16.
Below average, 25 hours.
Mean Maximum, 47·1°.
Mean Minimum, 37·5°.
Mean Temperature, 42·3°.
Above average, 4·7°.
Maximum Barometer, 30·62°, on 16th.
Minimum Barometer, 28·97°, on 30th.

L. B. BIRKETT.

WEATHER REPORT

FOR THE YEAR 1900.

WESTBOURNE, SUSSEX.

Rainfall, 29·69 in.
Heaviest fall, ·93 in. on January 6th.
Rain fell on 188 days (av. 167).
Above average, ·87 in.
Maximum Temperature, 83°, on July 19th.
Minimum Temperature, 18°, on Feb. 10th.
Minimum on Grass, 11°, on Feb. 10th.
Frosty Nights, 69 (av. 76).
Sunshine, 1,789·4 hrs.
Brightest Day, July 18th, 15·5 hrs.
Sunless Days, 69 (av. 59).
Below av., 77 6 hrs.
Mean Temperature, 47·7°, (below av. 0.2°)
Maximum Barometer, 30·75°, on Mar. 13th.
Minimum Barometer, 28·43°, on Feb. 19th.

L. B. BIRKETT.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. M. C. (Dumfries).—*Lantern Slides on the Natural History of the Honey Bee.*—There are no lantern slides obtainable taken from the illustrations in Mr. Cowan's work on the "Honey Bee." We never heard of the firm of Riley Bros., Bradford, as "loaning" bee-slides, and have no idea what their slides are like. The B.B.K.A. have two sets of slides that may be hired on application to the Secretary, Mr. E. H. Young, 12, Hanover-square, London.

L. STAINER (Belgium).—Mr. F. R. Cheshire died over six years ago, viz., on Sepember 16, 1894.

R. CASSON (Darlington).—*Disinfecting Hives.* —It is very refreshing to find one—like yourself—so anxious to make assurance doubly sure in matters connected with foul brood. But after "scraping and boiling frames, and scorching the hive inside with a painter's spirit-lamp," a solution of salicylic acid is useless for ensuring greater safety. If anything further is done, we should simply burn the frames, but only in a very bad case.

"BLACK HOUSE" (Edmondsley).—*Disinfecting Hives.*—Without asking for the opinions of others on the subject, we have no hesitation in assuring our correspondent that if a suspected hive is carefully gone over with a "painter's spirit-lamp," applying the flame to every crack and crevice until the wood becomes scorched, it will effectually destroy every trace of foul brood. The spores are what cause a recrudescence of the disease, and these cannot stand the application of fire.

A. E. (Ashby-de-la-Zouch).—*Honey Sample.* —Your jar was broken in post through insufficient protection in packing. Enough honey, however, was left to enable us to say it is rapidly fermenting; and the tiny specks you suppose to be pollen-grains are only minute air bubbles caused by fermentation. Before using it for food the honey will need to be heated to boiling point; then skimmed while hot. Many thanks for your good wishes.

"WEED" (Strabane, Ireland).—*Honolula, Newspaper.*—Our correspondent writes, asking if we can give him with the name of a newspaper printed in English published in Honolulu, Hawaii? Not being able to afford the desired information ourselves we will be obliged if any reader can help us.

Editorial, Notices, &c.

THE B.B.K.A. APIARY.

AN APPEAL TO APPLIANCE DEALERS.

It will be remembered that a letter, headed as above, appeared in our issue of the 3rd inst., signed by a member of the Council of the B.B.K.A.

In response to Mr. Weston's appeal, we are very pleased to hear that several leading hive manufacturers have offered to present a complete hive to the Council to replace the rather dilapidated ones in which the bees belonging to the Association are at present housed. This is satisfactory so far as it goes, but we deem it advisable to give further prominence here to the appeal, fearing that some at least of our hive makers have overlooked Mr. Weston's letter on page 2. If it be true that five or six hives have been promised, we venture to think that no difficulty will be found in getting all that are needed, and that a dozen can be usefully put into operation. Apart from the philanthropic aspect of the case, our hive makers are wide-awake business men, and it would be difficult to imagine a better way of bringing to notice the good points of hives of various types and makes, shown in juxtaposition and in full operation.

We therefore join with our colleagues on the B.B.K.A. Council in soliciting the co-operation of all hive makers, with the view of making the Association apiary at Swanley worthy of the parent body and of the bee appliance industry of the kingdom, so that visitors, native and foreign, may gain knowledge by seeing good British-made hives in full working order.

While writing on matters connected with the B.B.K.A., we may also add a timely word by way of reminding readers who are interested (and what bee-keeper is not interested) in the proposed "Bee-Keepers' Defence Fund," that the secretary will be glad to receive names of intending donors to the fund, because it will tend to facilitate the labours of the sub-committee, to whom the matter is to be entrusted if the amount likely to be available is in some measure indicated beforehand. All sums promised will be duly acknowledged in our pages.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of December, 1900, was £1,396.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

SIZE OF SECTIONS.

CAN THE PRESENT SIZE BE IMPROVED UPON?

[4206.] I am pleased to see Mr. Wm. Woodley, in his "Notes by the Way" (page 11), stand up for the present section, and the more so because he may be considered —from his past successes—a worthy champion for it. I will, however, try my utmost to dislodge him, if possible, from any line of defence he may take up.

Now, first, he asks whether I intend the narrow sections to be worked with or without dividers? I reply (*a*) they could be worked with dividers attached to frames; so that, being narrower, they would be completed quicker; and, being hung, they would have the advantage of "W.B.C." frames, the chief of which is, I suppose, that the sections in the corners of the box, owing to the warmth of clustering bees, are more likely to be completed.

Or (*b*) dividers could be made up of slats, about which Mr. Root says:—"We have no hesitation in recommending these in preference to the solid separator." Mr. Crane, an extensive bee-keeper in America, has used large numbers of these with his old bee-way sections, and is of opinion that they give him better filled boxes. As in the case of "fences" the bees have free communication back and front, and if there is anything in this intercommunication idea the slat separator gives it.

Or (*c*) without dividers. Thus the best results would be secured by those who could devote a little time and skill. The key to the position would be gained by a careful reconnaissance in order to find out how large a super any colony could fairly occupy. If the force was strong enough to work out all the sections simultaneously, separators would not be necessary. We should get some fair sections even from weaker stocks by narrowing the brood-chamber and regulating, by means of blocks, the super-space.

Next, Mr. Woodley thinks that "shallow-frames are taken to more readily than the ordinary section-rack, because the former generally contain ready-built combs and have

no dividers." I reply, the spacing of combs is another reason, and the strongest. Just as the bees are depressed when given too large a super, so they are also dispirited when the foundations or worked-out combs are far apart. Any who doubt this can easily prove it by giving three colonies of about equal strength three similar boxes—the first containing ten frames; second, eight frames, both fitted with weed foundation; and the third with six or seven worked-out frames. With me the first has generally outstripped the others in rapidity of work as well as evenness of sealing. The last would have the chance of surpassing only in a hot, dry season, because then the nectar is thicker, and less time is lost in the process of ripening.

Again, Mr. Woodley speaks of being "compelled to use dividers in order to maintain the present high standard of bee-work." On the other hand, I contend that with or without dividers, but with a narrower section, we can attain to a higher standard than the present. But, perhaps, he will be so good as to tell us what he means by the "present high standard"—to what does it apply? How much does it embrace?

Taking the widest survey, I see a very low standard in the tens of thousands incompleted sections which have to be extracted or broken up. If he refers to those placed on the market, well, generally, they are a very mixed lot; some with tarnished combs (not sealing only) and soiled wood, worked out, no doubt, a season or two previously, and not carefully kept since; others in all stages of completion, and the remaining half which we will admit are fairly presentable. As to a "standard" the salesman knows not how to fix it; and if he is a grocer he is at his wits' end in pricing the honey his customers would exchange for goods. But probably Mr. Woodley alludes to the exhibits at shows. I would rather call them the exception than the standard of British honey. If so, let us examine them. Out of every hundred sections exhibited, very few are really perfect. In most the centre is nicely sealed, but many cells adjoining the wood are open if they do not contain thin honey. But to talk of "the present high standard," with these only in our view, seems as reasonable as for a traveller to describe a country (say East Africa) as glorious because he had admired a few hills here and there tipped with gold! I think the vast majority of bee-keepers will agree with me that it would be a great gain if we could, by some method or other, have a larger proportion of sections completed—I mean, sealed to the very edge—even if the surface of some was not quite so even as at present. The middleman would appreciate the boon of handling fewer leaky, messy sections; and the fixing of the commercial standard of honey-comb would then become practicable.—Richard W. Lamb, *Burton Pidsea Rectory, January* 12.

(*To be continued.*)

BEE-KEEPING IN NATAL.

THE SEASONS IN SOUTH AFRICA.

[4207.] *Spring.*—It is difficult for any one in this country, especially after a summer like that of 1900, to realise how farmers in Natal look forward to the "coming of the rain," and not the farmers alone, for even the townspeople live in the country, and every house has a garden, and often an orchard, of its own. It is no slight shower that comes to soften the soil, baked hard as concrete by the drought, but a three days' welcome downpour. In September the grass, burned off at the end of the dry season, comes up again a bright rich green, starred with lilac daisies and dotted here and there with red fire lilies. Within recent years hundreds of fruit trees have been planted around Durban, and the orchards are now a wilderness of blossom in the spring. The mango trees are first to flower, and everywhere the warm colouring of the new leaves are in deep contrast with the fairy green of the citrous trees. In the bush, too, Nature awakens to newness of life. The birds, thinking of mates, call to each other in the clumps of short, twisted, flat-crowned trees that dot the slopes. The frogs croak in the marsh as though the world was theirs, and theirs alone; the crickets whirr almost as loudly in the drier grass. It is a time of rapid growth. Cycads, palms, and bamboos grow amazingly; many of the weeds lengthen a foot in a single night. Jack the Beanstalk is no fairy tale, and the Kaffir legend of a little people who live buried in the green world becomes literally true.

Summer.—Each successive rain brings the summer nearer. Day after day there is the same cloudless sky, the same heat haze resting on the hills. The orange trees look their loveliest, decked in a bridal veil of white, and the gardens are a blaze of colour. There are rare feasts of honey for the bees and other insect guests. All through the summer there is the ceaseless hum of insect life; strange glow-worms, tiny beetles, many-coloured grasshoppers delight the collector. It is no mere metaphor to speak of "the living earth." The soil teems with life, all manner of creeping, crawling, and flying things, to the delight of the naturalist perhaps, but often to the vexation of the farmer. He may agree with the poet that "the grasshopper is the only merry thing in a world of sorrowing;" but when it rejoices at the expense of his cabbages, he can scarcely be expected to join in its mirth! Summer comes with a rush and brings with it the task of weeding. The work goes on in the blazing heat from sunrise to sunset, with only an occasional chase after a wild cat or iguana to break the monotony. The appearance of a snake causes instant excitement. Tools are instantly dropped, the natives rush for their sticks, shouting the while, the dogs are soon barking at their heels,

and, thus alarmed, all hasten to the scene of danger. "Leta umuto, boy!" exclaims the farmer, and the medicine is brought. The sufferer is quickly doctored and lynch law dealt out to the snake, be it umhlangwana, green mamba, or deadly puff-adder.

Autumn.—Christmas is midsummer. On the coast the amatingulu hedges are laden with white blossom as though it had been snow. A few weeks later bright red berries —the strawberries of Natal—begin to peep from among the green, grapes and granadillas grow purple in the shade, pine-apples yellow in the sun. The earth yields forth fruit abundantly. Citrous trees of all kinds grow and flourish, oranges, naartjes, lemons, and pompelmouse. There are mangoes and loquats, papaws and guavas in variety. Succulent fruits, such as pine-apples and bananas, predominate on the coast; while stone fruits, such as peaches, plums, and apricots, are almost exclusively confined to up-country districts.

But in a country where flowers and fruit grow well, so also do weeds. The cultivated patch is invariably surrounded by uncleared bush—a tangled web of greenery. From thence the birds carry the seed, and, given space in which to grow, the soil proves only too congenial. From the long stretches of waving grass-land seeds float gaily on the wind into the cleared spaces. Wild asparagus, cotton grasses, and weeds of all kinds spring up and flourish, while burrs and black-jacks work a cunning embroidery on the fleece of any animal foolish enough to venture among them.

Winter.—Up-country the willow trees are bare, the wind is chill, and the people of Maritzburg boast of seeing snow! On the coast, however, no cruel winds, no biting frosts come to with and scatter the leaves. The days are cool, clear, and full of sunshine. Here and there a flowering shrub may be suggestive of autumn colouring, but as most of the trees are evergreens, the coast lands even during the dry season wear a summer aspect. The bougainvillea drapes the trees in blossom, and the red leaves of the poinsettia are bright as the petals of many flowers. The lilies in their bulbs, the aloes in their leaves, the cactus and euphorbia plants in their leafy stems have laid up a water supply against the long dry season, when for months the drought binds the ground as hard as any frost and life in the green world is at its lowest ebb. The swallows have gone and the mosquitoes perished. No longer in the gathering dusk do the fire-flies flit around the orange trees, though a solitary cricket may still whirr at the approach of night.

Thus in one continuous round of beauty the seasons pass from one to another, and so quickly that ere the berries have fallen the trees are in blossom again. Here the farmer sees Nature in her mildest mood. But what of locusts, rinderpest, and drought? These, too, must be taken into account, and each would require a column to itself.

At the same time, "the enterprise upon which depends the future of the people of the Colony," to quote the words of the late Premier, "is in connection with the soil." It is not townspeople, who for generations, perhaps, have been estranged from mother earth, and have inherited an aversion to contact with the soil, that can be expected to make successful colonists, but country people who are already familiar with the fundamental facts of life, and are content with the quiet simple life the country affords.—M. R. *Thornhill, Bellair, Natal, South Africa.*

[The above interesting letter is kindly supplemented by a promise to send us some particulars about bee-keeping in South Africa, with photos. We need hardly say how welcome any further news will be to ourselves and readers.—EDS.]

M. NICHOLAS SCHAWROFF

AT THE "MODEL APIARY," HOLME.

[4208.] It affords me much pleasure to comply with the request of our Editors, made some time ago, for a few particulars regarding the day spent by the above-named gentleman at the "Model Apiary."

From time to time many strangers to Holme and to myself have been met by me at our railway station, but never before did I so easily recognise my visitor at first sight, and from the moment of our handshake I felt my immediately favourable impression gain in volume, and more than once I wished some others of "the craft" had accompanied our distinguished Russian friend on the occasion.

Although so late in the year the day was delightfully fine, "Old Sol" giving to our lanes, fields, and woodlands a brightness not often got in November days, causing my companion to remark in approval of the surrounding scenery. Soon we reached the hive where my "best queen" presides, and contrary to bee custom with regard to strangers, the door was opened wide to welcome him in.

Having divested himself of his camera and accessories, we soon found our way to the wax and foundation storeroom. M. Schawroff's main desire at this point was to see beeswax transformed into sheeted wax, and accordingly we passed into the adjoining room, which contains the old-style smelting and dipping tanks, together with the new smelting, sheeting, favossing, cutting off, and packing machinery. All being in readiness the engine belting was run on and the machinery put in motion.

Lumps of beeswax in the steam-tubed smelting trays were soon liquefied and streamed forth into the pan beneath the "sheeter," and the cylinder of the latter as quickly took up the liquid wax and carried it over into a pressure-chamber. Thus, in a

few seconds, the wax, which was molten and very hot on one side of the machine, was coming forth on the opposite side, a perfect sheet of cool wax, a strip of which was cut off and handed to our visitor for inspection.

M. Schawroff was not long in realising its qualities as to cleanliness and texture, while at the same time testing its toughness. Thus, by a single practical operation it was plainly demonstrated that beeswax could be put into the best possible form for the bee and beemaster's ultimate uses. The visitor's admiration of the process was visible in his face. "Beautiful!" was his exclamation, as we took the sheeted wax to the favossing mill, where it was impressed with worker cells, cut off, and packed at one operation. A parcel of standard size brood foundation.

Before leaving this department the operations of sterilising and clarifying were explained, and as mementoes samples were taken of the various kinds of beeswax on hand from many parts of the world, including British beeswax, also of sheeted wax, and pieces of the several sorts of British "weed" comb-foundation made at Holme.

We next passed into the engine-room, where our petroleum engine was at work, and explained how 11 h.p. was got at a cost of less than 3d. per hour. The engine-builder's name and address were carefully taken by M. Schawroff—for future use.

In the joiners' workshop, hives in various stages of construction were inspected, along with pieces of worked-wood for frames, sections, racks, &c., and each machine in the shed had its purposes explained by request.

The boiler and steam-engine house, with its many belongings, were also inspected and commented upon.

Along the route to "The Model Apiary" the cattle and poultry came under notice, and when the hives came into view the camera was wanted, fetched, and the apiary photographed.

The multitudinous belongings of the apiary were carefully examined, and the queen-rearing implements, nucleus hive, and manipulating house were queried upon, while the characteristics of the different varieties of bees, as experimented with here at Holme, were thoroughly gone into.

Next to come in for notice were the herbaceous plants in the borders, roses, fruit and other trees. Here my limited botanical knowledge paled into nothingness in the presence of such a master on these subjects as M. Schawroff. How I wished I was Mr. Cowan, if only for one quarter of an hour, just to get a little more *even* with our Russian friend!

However, the situation was soon changed, my visitor asking me to sample for him some bees into a glass vial, the stopper of which converted the bottle into a kind of lethal-chamber. Altogether I have got a good deal to think over from my visitor's varied knowledge in the interval between now and the visit I may possibly make, in response to M. Schawroff's invitation, to see his home in Caucasia Meantime I am promised a few Caucasian queens, all being well, in 1901.

During the discussion of our modest mid-day meal, mainly consisting of a "Holme"-grown fowl, M. Schawroff showed his keen interest in everything that came under his notice when he observed, "No such large chickens in Caucasia!"

My good wife, I found, was also able to get her memory refreshed about the several towns and parts of Russia she lived in some twenty years ago.

The repast over, M. Schawroff (kodak in hand) and myself explored our village for the purpose of securing some snap-shots of such bits of scenery as caught his fancy. In this way a "picture" was got of a farmhouse and the adjoining foliage, which was observed clinging to and hanging from some towering elm trees. Another "bit" he took was the village main road, including my own home and the characteristic cottage homes studding the wayside; the church (interior and exterior views); the village schools with school-children in the foreground —"the dear little ones," as he called them, coming for a great share of our friend's attention. "These pictures," he said, "will call back to my mind so much of Holme, which otherwise I should not remember."

The little time left was occupied with a look round the fruit garden, greenhouse, and my incubator and poultry-rearing apparatus. Then came the harnessing-up for the ride back to the station; the return journey being occupied in chatting on religious, social, and political questions. In each of these M. Schawroff is distinctly broad-minded, and on parting with him I felt that the world would be all the better for more men such as he. With more than one hearty hand-grip and a final good-bye, our friend was off by the 4 p.m. train to London, leaving behind him only memories of his visit to our village home.—JOHN H. HOWARD, *Holme*.

(*Correspondence continued on page* 26.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Judging by the photo of Mr. Edwards's apiary on next page, it would not occur to any one that the hives seen were made from "used boxes" by an amateur joiner; yet it is so; and the "notes" sent to go along with the picture in print will also be found useful in other ways to readers; we therefore add nothing to them. Mr. Edwards writes:—

"In reply to your request for a few 'notes' on my bee experiences, I beg to say my apiary is situated at the foot of Llit Hill (the highest hill in Cornwall, and about half a mile distant from

my house). Being a breeder of prize fowls, as well as a bee-keeper, I have the hives located in the 'runs' where the birds are kept, and I have reared many a winner at our big shows. I find the bees do not interfere with the grown up fowls in the least, but I cannot rear chickens in the runs where the hives stand, as the bees sting them, and they die. I have therefore to devote the other end of the field of about four acres to the latter purpose.

"I began bee-keeping in 1895, after visiting a local show, where honey was staged and a demonstration given in the bee-tent. My interest being aroused, I started the following autumn by purchasing two stocks in straw skeps. I next offered to exchange some

MR. JOHN EDWARDS'S APIARY, CALLINGTON, CORNWALL.

fowls for hives, by advertisement in B.B.J., and in this way got three (second-hand ones). I then bought the 'Guide Book' (Cowan's), and worked according to the instructions given therein, and with the assistance of Mr. Jno. Brown, Polyphant, expert of the Cornwall B.K.A., and Dr. H. Daveys, jun., Callington, a bee-keeper of experience, I was put in a fair way of getting on. The following year I had my first swarm, which issued in May, and was established in one of frame-hives already mentioned. I got no surplus honey that year, but increased my stock to eight colonies with swarms and driven bees. In the following spring I suspected something was wrong with the May swarm in the second-hand hive, and, fearing foul brood, I cut out a piece of comb and sent it to the B.B.J. office, where it was declared to be foul brood (as I thought). I treated the stock as instructed in 'Guide Book,' driving the bees out and confining them in a box for twenty-four hours. I then burnt all the frames and quilts, thoroughly cleaned the hive and painted it with carbolic acid, and put the bees back on full sheets of foundation. All went on well for a time, but at the end of the year the stock was as bad as ever, and I had six other stocks affected. I therefore destroyed the first affected stock, and burnt the hive. I attribute the mischief entirely to buying and using second-hand hives. The other hives that became affected I cleaned out, and painted the insides with three coats of white lead paint. I have not had a trace of disease in them since, but I am very careful. I always use naphthaline in the hives every spring before supers are put on, and again after the supers come off. All section-racks and appliances are placed in a large box at the end of season, and well disinfected with burning brimstone. I also paste paper over all the joints of the box, when using, to make it air-tight. When feeding the bees I invariably use naphthol beta in all syrup and candy.

"I find it such a real pleasure to one's ordinary pursuits to get among the bees for an hour or two that I would recommend all

business men to keep a few hives for pleasure and profit. For myself, I may add that being a baker and grocer, I go some rather long rounds among customers with horse and trap, and am at all times glad to give assistance and instruction to those who keep bees. I can get as many driven bees as I like for the trouble of 'driving.'

"I am wintering twenty-two colonies, and twenty of them headed by queens bred in 1900. I therefore expect a good time next summer, if weather is favourable. The hive that your humble servant is seen examining in photo gave me the sections that won first prize and bronze medal at our Truro show last season. All the hives seen were made by myself out of used boxes, and I secured first prize for best hive made by an amateur at our annual show (it was made out of two 'Quaker Oats' boxes). Besides being a successful exhibitor at our local shows with honey and wax I have won a good many first prizes, and I am specially proud in being the first (and only) exhibitor in Cornwall who has won a first for honey or wax at the Dairy Show. We get our main crop of honey here from white clover and blackberry blossom, along with a little honey gathered from heather. I get my B.J. every week, and recommend all bee-keepers to do likewise."

CORRESPONDENCE.

(Continued from page 24.)

BEE-KEEPING IN SCHOOLS.

[4209.] Replying to our friend Mr. Till (4,201, page 17), I fear that the £40 quadrupled, with the tempting fair and fertile fields of Kent and the bonnie Scotch lassies thrown in, would scarcely tempt me to leave my heather hills. If I were there, in the Garden of England, I might still have "My heart in the Highlands," and feel a longing for the "bloom of my own native heather." As for the tender and tempting allurement, I can sing, "I hae a wife o' my ain."

Surely Mr. Till speaks from incomplete data when he says "Scotch salaries are generally small." Of course we would all like them larger, but in the county where I live they will average over £150 a year with a house. Very few are under £130 and many exceed £200. Can better be said of Kent? If so, tell him to send some of the "plums" in the way of F. E. I. S., *January* 14.

BIBLIOGRAPHY OF BEE-KEEPING.

[4210.] I beg to be allowed to make some remarks on the letter of your correspondent, "South Devon Enthusiast," in B.B.J. of December 20 (4176, page 500), with regard to "Bibliography of Bee-keeping."

The list of bee books enumerated in John Milton's "Practical Bee-keeper," 1843, page 141-147, is incomplete and useless for bibliographers, as it only contains the year of publication and names of the authors—561 in all. A more complete list, as to their titles, is contained in the Rev. W. C. Cotton's "My Bee Book," 1842. Unfortunately, however, only 125 works on bees are therein enumerated.

With regard to the bibliography of bees, Mr. C. N. Abbott, then editor, published in the BRITISH BEE JOURNAL from June, 1877, to January, 1878, I am sorry to say I cannot agree with your correspondent when he says that this is the most complete list yet published of bee-writers and their work, both English and foreign. The lists referred to only contain in all the titles of about 776 books. Very unfortunately, as it happened, the conclusion of this list never appeared, owing to a fire which broke out in the printing office of the BRITISH BEE JOURNAL on January 24, 1878, which completely destroyed all it contained.

To my knowledge, the most complete catalogue of bee literature of ancient and modern times is the "Elenchus Librorum de Apium Cultura. Bibliografia Universale de Apicultura, raccolta per Augusto de Keller, Direttore del I° Museo Apistico Internazionale in Milano. Milano: Ulrico Hoepli, Librajo-Editore. 1881." 222 pages.

In this famous catalogue, about 2,300 works, pamphlets, &c., on bees are enumerated in their original language, viz.: English, German, French, Latin, Italian, Dutch, Spanish, Bohemian, Hungarian, Swedish, Norwegian, Danish, &c.—E. DRORY, 18, *Gitschiner Strasse, Berlin, January* 2, 1901.

THE "VITIATED PUBLIC TASTE."

[4211.] With reference to Mr. A. G. Leigh's letter (4198, January 10), I may quote an instance of the "vitiated public taste" as regards honey which came under my notice a short time ago. I must premise by saying that I keep bees primarily as a hobby—and what a fascinating hobby it is! Secondarily, I do it for a charity; that is to say, all the proceeds derived from the sale of honey, after paying expenses, are devoted to a special charity I am interested in. One day last November a neighbour was calling upon my wife, and I suppose the subject of "bees" had been mentioned, for when I came in my wife playfully remarked to me before the visitor, "You mustn't offer Mrs. —— any of our honey, because she can get it at half the price you ask" (I may say I sell it at 1s. a section). I replied that I should be very sorry to eat any "honey" which was on the market at 6d. a section, and I explained why. The upshot of our chat was that the friend proposed to send me one of her sections, and I promised one of mine in exchange.

The "honey" in the section she sent was *very* pale, *very* thin, and *very* tasteless. When I next met our friend she told me that "her *children* liked my honey, but that she and her

husband both thought it *rather strong*." The youngsters, I think, showed, as they usually do, the true instinct for discerning between good and evil.

In the last paragraph of Mr. Leigh's letter he says, "by the month of October most pure honey is solid." Surely this is rather too sweeping a statement, is it not? I have several sections of my last year's harvest left, and the honey is still liquid. It is true they are stored in a cupboard in a fairly warm room, but I take it that most people do the same with their honey.—G. S. N., *Surrey, January* 11.

PREVENTING SWARMING.

[4212.] Referring to Mr. A. H. Miller's remarks in B.B.J. of December 20 (page 499), if he would kindly give particulars of his method of preventing swarming, it would certainly be of interest to many—if not all—of your readers. Can you induce him to give them?—F. W. RODEN, *Merriott, Somerset.*

[We will invite Mr. Miller's attention to the above.—EDS.]

HONOLULU NEWSPAPERS.

[4213.] For the information of your correspondent "Weed" (Strabane, Ireland), who writes on page 20, I know three newspapers, printed in English and published in Honolulu. The names of these are—the *Semi-Weekly Star*, the *Hawaiian Gazette*, and the *Pacific Commercial Advertiser*.—J. ANDERSON, *Selkirk, N.B., January* 10.

FUGITIVE PAPERS

ON ANCIENT BEE-BOOKS.

No. 10.—HUBER.

[4214.] The last book I can at present notice is that of the great Huber, and he might well stand as the last of the ancients or the first of the moderns, for with him we pass into a new atmosphere, highly charged with delicate experiments, and full of astounding discoveries. The 110 years which have passed since he was at work have verified most of his discoveries, and have shown what a marvellously patient investigator he was.

Yet when we remember that he revolutionised many of the ideas of the men of his time, we can hardly wonder that some (Huish, for example, writing in 1817) spoke of his "pretended discoveries," and considered that he drew on his imagination for many of his facts. He was born at Geneva in 1750, and one of the most striking facts about his labours is that having become blind, he had to depend largely on the observations of his assistant, Burnens, who worked under his directions, and from whose reports he reasoned accurately and thought out difficult problems and by further experiments solved them.

Huber's book is divided into two parts, the former being a series of letters to the celebrated naturalist, M. Bonnet, who died in 1793. The letters are written from 1789 to 1791. The second part of the book was written some years later. The letters contain reports of a long series of truly fascinating experiments as to the fertilisation of the queen-bee, the formation of swarms, the existence of fertile workers, and many other subjects too long for detailed report in such a paper as this. Schirach had by repeated experiments undermined the opinion of Swammerdam and Réaumur that worker-bees were not only sterile but neuter.

He had shown that bees can "procure a queen for themselves provided they have comb containing larvæ three days old in the common cells." Huber says "views so adverse to those generally entertained were received with enthusiasm on the one hand and with distrust on the other." He confirmed these views by experiments which could leave no room for doubt. He found out that the queen-bee left the hive on her wedding flight and thus settled a question which has baffled all his predecessors. Riem had suspected the existence of fertile workers. In solving out this question Burnens actually handled every bee in a hive; "eleven days were employed on it, and during all that time he scarcely allowed himself any relaxation but what the relief of his eyes required." Before Huber's time it had been thought that a young queen headed a swarm. Réaumur suspected that old queens sometimes did this; Huber proved that they always did so. Very important is his discovery as to the origin of wax. He says "it was the general opinion that pollen was converted into wax, and this was "scrupulously observed by Réaumur, Maraldi, and other learned men," but is this substance truly the elementary principle of wax? Réaumur entertains some hesitation regarding it from the great difference between the pollen and the wax; however, he inclined to believe that the former, by receiving some peculiar elaboration by the bees, was converted into real wax in the stomach, and disgorged under the appearance of a kind of paste." Schirach discovered that wax was not discharged at the mouth, but came from the rings of the abdomen. John Hunter had noticed the formation of the wax scales, and Huber, by depriving swarms of access to pollen and feeding some on honey and others on sugar, conclusively proved that here was the substance from which wax was made. He also demonstrated that brood could not be reared without pollen, the leaf or book hive which he invented being better for observation than any used before his time.

Before concluding this article I should like, Sir, with your permission, to express my thanks to several correspondents who, like myself, are interested in the literature of bees

for their references to lists of books in the early copies of the JOURNAL and elsewhere. The whole subject is, I think, worthy of attention, if only as showing the evolution of knowledge through difficult stages and the debt which we owe to the great masters of our craft in days gone by for their painstaking researches.—A. A. HEADLEY, *Alresford Rectory, Hants, January* 5, 1901.

RAINFALL IN 1900.

[At Buttermere, Wiltshire, 847 ft. above sea-level.]

Month.	Total Depth.	Greatest Fall in Twenty-four Hours.		Number of days on which ·01 or more fell.
	Inches.	Depth.	Date.	
January	3·51	0·96 snow	6th	20
February	4·40	0·70 snow	2nd	18
March	1·98	0·68	27th	11
April	1·78	0·52	3rd	14
May	1·59	0·42	22nd	11
June	2·65	0·38	22nd	16
July	1·22	0·36	31st	8
August	3·42	0·76	23rd	15
September ..	0·63	0·32	30th	6
October	2·80	0·51	29th	16
November ..	3·32	0·72	6th	20
December ..	5·14	1·46	30th	25
Total..	32·44			180

WM. BURKITT.

RAINFALL IN IRELAND—1900.

[Observations taken at Enniskillen, 160 ft. above sea-level.]

Month.	Inches of Rainfall.	Number of days on which ·01 in. or more rain fell.
January	3·70	26
February	3·04	15
March	0·61	11
April	2·67	18
May	2·61	17
June.....	3·57	22
July	3·08	23
August	4·61	18
September.....	2·29	17
October	6·00	25
November	5·93	18
December	5·12	27
Total	43·23	237

J. T. ABRAHAM.

Queries and Replies.

[2574.] *How to Utilise Swarms where Increase of Stocks is not Desired.*—Anticipating an answer to the questions of D. P. H. in B.J. of November 8 (4131, page 439) and G. S. N. (on page 4 of last week's issue), I shall be pleased to have your opinion on the following:—Owing to a large number of my hives becoming queenless through, as I think, excessive feeding with medicated syrup (naphthol beta dissolved in best Scotch whisky), I was obliged to increase my stocks by purchasing a number of driven lots of bees. The ages of the queens of the driven lots being unknown, and as they are more likely to be aged than otherwise, I purpose re-queening the whole of the hives, giving to each a virgin queen. Being desirous that there should be no interval in breeding, as in the case of swarmed hives, I wish to retain the services of the old queens. How is this assistance to be secured? Each of my hives consists of two body-boxes of equal size clamped together, both being used for breeding purposes. I propose confining the old queen in the upper box by excluder-zinc, and allowing the lower one to contain the virgin queen until the latter is fertilised, then remove the old queen along with the excluder-zinc. The question is, will the bees tolerate the presence of both queens for the time being? and, if so, is there any risk of a hive moderately filled with bees throwing off a swarm? I may here state, that before introducing the virgin queens I intend taking the precautionary measure of placing some covering between the two boxes, for, say, twelve hours, so that the bees in the lower half may feel the loss of their queen. On this being observed the virgin queen will be introduced.—JOHN HALL, *High Blantyre, N.B., January* 5.

REPLY.—In carrying out so complex a bee-operation as is conveyed in the above query many things require to be considered and several risks discounted. In the first place, before a hive can be safely divided into two colonies a very strong stock of bees and plenty of brood will be required, but even with this condition made safe the proposed mode of procedure is not the best.

A few of the "risks" we have mentioned may be enumerated as follows:—(1) Bees deserting one part of the divided hive for the other; because if the brood is put in the lower chamber while the queen is confined in the upper one, the bees may desert the brood to join the queen, or *vice versâ*. In either case mischief would result. (2) The risk of the virgin queen passing up through the excluder (as most virgins can do) and being destroyed by the parent queen of the hive. (3) The bees issuing as a swarm along with the virgin queen when the latter left the hive on her mating trip. This is very likely to happen and so spoil the whole plan, for the fact of covering the excluder for twelve hours would not be certain to deceive the bees into supposing their queen was lost.

Referring to our correspondent attributing the loss of his queens through "excessive feeding with syrup medicated with naphthol beta," we can answer for the naphthol beta not causing death, but we feel hardly safe in taking responsibility for "excessive" whisky drinking, even though it be "best Scotch." Seriously, though, we do not think the trouble can be in any way attributed to medicated syrup, seeing that the great majority of bee-keepers use it and have no bad results.

[2575] *Earwigs about Hives.—Candy-Feeding.*—Will you kindly give me advice under the following circumstances:—I purchased four stocks of bees last October on bar-frames, I think. They were evidently in a neglected state, as I found earwigs in two of the hives and wasps in another. I took what honey they had in the supers—still on when purchased—but there was not much. I did not disturb the brood-chambers at all, as I had no experience of bees before, and consequently did not know how to examine the frames. So I therefore do not know what honey they have, but I gave them about 2 lb. of syrup each, and then I put 1 lb. of candy on each. Both syrup and candy were made from the recipe in "Modern Bee-keeping." I looked at them on January 3, and I found the bees had taken all the candy, so I gave them some raw sugar. I therefore ask:—1. Are earwigs considered to be enemies of bees; if so, how am I to get rid of them? 2. Would the bees consume all the food they had in store before they took down the candy? 3. Would raw sugar, as sample, do for them as well as the candy?—MID-CHESHIRE, *Crewe, January* 8.

REPLY.—1. Earwigs, though by some included among bee-enemies, can hardly be regarded as such, seeing that they only cluster about hives for warmth, shade, and shelter. They are, however, not quite cleanly, and about well-kept hives may be regarded as a nuisance, but no actual harm to the bees results from them. 2. No, the bees may not use any stores from the combs while consuming the candy. 3. The sample sent is not raw sugar, but what is known as refined yellow crystals. It is not at all suitable for giving to bees except in syrup-form.

[2576.] *Making an Observatory Hive.*—I am desirous of making a hive on the observatory principle, as I understand the ordinary observatory hive is not a success out of doors, owing to the cold nature of the glass. I shall be glad if you will give me instructions as to building a hive suitable for a room indoors, with an outlet through a small aperture in the window-frame. I therefore ask:—1. Would it be possible for me to make an ordinary size brood-box, with standard frames, and the super to consist of an ordinary glass frame, containing say, four or six frames built on the principle of the ordinary observatory hive? 2. Would the bees take to a super of this kind? I should be able to make it perfectly warm—being indoors in a small spare room—and cover the glass portions with felt-covered doors. 3. What width would this super require to be? 4. Will you please give me the recipe for making candy, having followed one and failed?—A reply in your next issue will oblige.—ANXIOUS, *Stafford, January* 11.

REPLY.—The task of giving clear and full "instructions for building" an observatory hive, such as is contemplated in above query, is too formidable for our reply column, and the same may be said of instructions for candy making. We therefore briefly say in reply to 1. Yes, it is possible. 2 and 3. The bees would not take well to such a super. 4. We will send B.J. with full instructions for candy making from this office on receipt of 2d. in stamps. See reply to John Edwards (page 30).

BOTTLING HONEY.

In the first place, I aim to put up none but first-class honey, weighing not less than 12 lb. to the gallon, and the same kind year after year. When I have to buy to supplement my own crop in a poor year, I get honey of the same kind as my own, or as nearly as I can, so that consumers will get the same flavour they are accustomed to. Instead of putting up a large quantity at once, as some do, I put up only as fast as needed for my trade. I use six-gallon lard cans for storing my own crop; and when buying I get it in five-gallon square cans when possible. For liquefying the storing cans are placed in cans large enough to admit of having three or four inches of water underneath and surrounding the honey. The liquefying tanks had better be made of copper, as tin soon rusts out; and if the tank gets rusty the water will cause the honey-cans to rust too. A wood or coal stove may be used in heating, but it needs constant attention to keep the fire just right; I therefore use a gasoline stove for the purpose, first heating the water boiling hot on the kitchen range to save time. It is safe to start with the water at the boiling point, as the cold honey lowers the temperature at once. The gasoline flame can be regulated so as to keep it just hot enough. In fact, I have sometimes put the honey on to melt at bed time, and left it melting all night, first lowering the flame so that the water surrounding the honey would not rise higher than 150 deg. Fahr., for it should be borne in mind that the temperature will rise as the honey gets melted. It is easy to ruin honey by getting it too hot, especially honey of delicate flavour, like that from white clover and all varieties that contain pollen grains. Pure basswood honey, owing mainly, I think, to the absence of pollen grains, may be heated much hotter without damage.

While it is probably all right for an expert to heat his honey to 190 deg., I think the limit of 180 deg., or even 160 deg., is much safer to give out to the general public. I have had clover honey that would not stand 190 deg. without impairing the flavour, and, of course, would be ruined if allowed to get much hotter; and for my part I see no need for heating so near the danger-point. I think it best to melt slowly, allowing, say, five or six hours for clover and two or three hours more for basswood, and not letting the temperature rise above 150 deg. for clover or 160 deg. for basswood, until it is thoroughly melted. Then the

temperature should be raised about 20 deg., and held there an hour or so, when the honey is ready to put up. The tank I use in filling bottles and tumblers holds about sixteen gallons, or is large enough to hold either three five-gallon square cans full or the contents of two of my regular six-gallon storage-cans.

My clover and bassweod honey is always light in colour, for, notwithstanding the heavy expense of large apiaries, every hive is provided with a queen-excluding honey-board, consequently, my extracting-combs are clean. But in buying I often get honey which, having been raised in dark coloured combs, is darker than my own, though equal in body and flavour. In this case I put in two or more cans alternately, so as to equalise the colour as well as the flavour.

My filling-tank is placed over a pan of water, and the whole thing set on the step-burner of my gasoline-stove, to keep the honey hot during the process of putting up. I used to dip out part of the honey from the can in the melting-vat, and lift out the can from the hot water and pour in the rest of the honey. But the five-gallon square cans had to be lifted out bodily by a slender ring at the imminent risk of being scalded by the ring breaking loose ; so I now use a glass siphon to run out the honey into the filling-can. I prefer to keep the honey up to 140 deg. or more until it is sealed up in the glass jars or tumblers.

I have never used wax in sealing up, and do not think it necessary if packages can be made air-tight without it. The main idea is to cause a vacuum, as in canning fruit; and to aid in securing this the packages should be filled as full as convenient with the hot honey, and there will still be a space left when cold, the same as in canned fruit; and the smaller this space is the better, as the honey will then remain more quiet, which is important.

It may be interesting for customers to invert a jar of honey and watch the bubble of air rise slowly to the surface, it may also be an effective way of showing the body and general attractiveness of the honey; but the more it is disturbed the sooner it will granulate. Just imagine, if you can, how it would seem to have honey put up by the bees in their waxen cells in such a slipshod manner that it could be slopped about from side to side or from end to end! And then remember that honey rarely candies in the comb unless exposed to a very low temperature.

The question has been asked, why it will not do to bottle up honey cold? I will answer that by saying, if I were asked to name the quickest way to make honey candy, I would say, "Pour it cold from one dish to another." Besides, it would not stay in the bottles, as there would be no vacuum; and when put in a warm store it would expand and stream over the sides of the jar.

I well remember putting up a dozen jars for a grocer who would not wait to have it heated, saying it would do just as well to put it up cold. He never wanted any more like that. The honey in every glass ran over, although not filled quite full; and the worst of it was, they *never stopped running over.* He would wash the jars clean every morning, yet the honey streamed down the sides before noon, or as soon as it got warm in his store.

But to return to my process. I have never used square bottles and corks because of feeling that it would be an imposition on the consumer to give him a comparatively worthless bottle with his honey, when I could just as well give him something that would be useful for some other purpose. Formerly I used jelly-glasses and pint "Mason" jars, but lately I have got to using the No. 25 jars sold by the A. I. Root Company, and like them best of all. They hold a full pound, and are the most perfect self-sealing fruit-jar that I have ever seen—have a smooth surface to stick on labels, &c. The tie-over jelly-glasses are much harder to secure against leakage, but it can be done so that but few will leak by using two or more thicknesses of paper, putting smooth, tough waxed paper next the honey, and some soft, spongy kind on top of that.—CHALON FOWLS, in *Gleanings* (American).

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

K. BOYD (Armagh).—*Buying Queens in January.*—We know of no one who has queen-bees for sale at this season of the year, nor would a queen travel safely by post in frosty weather.

JOHN EDWARDS (Callington).—*Making an Observatory Hive.*—We are sorry the number of Messrs. Cassell's paper, *Work*—containing working drawings for making an observatory hive—is out of print, because without such it would be almost beyond the power of an amateur joiner to make one. The handiest kind of observatory hive for taking to a local show is a single-frame one, in which the bees may be kept cool while confined for the day. To make such you would need either to have a pattern to go by, or work from the "cut" shown in an appliance-maker's catalogue. (See reply to "Anxious," page 29.)

P. B. GOVETT (St. Germans, Cornwall).—*Portraits of Bee keepers.*—We will think over the matter, and probably print your letter next week. Meantime, we are much obliged for your suggestion, and will be very pleased to have a photo of your apiary for inclusion in "Homes of the Honey Bee."

Death of the Queen.

After a few days of anxious strain, felt not only by her own people but by the whole civilised world, the end has come, our dearly loved and venerated QUEEN having passed away gently and peacefully, surrounded by her children and grandchildren, on the evening of Tuesday last.

Rarely has it fallen to the lot of a single being to rightfully claim so large a share of the affections of humankind from the highest to lowliest as did the good QUEEN now gone from among us. It is also something to be very proud of, that from the great Nations of the world down to the smallest community or assemblage of men, not a jarring note is heard in the universal chorus of praise or the sorrowing expressions of grief at the loss of an influence for good that has made itself felt the world over. And so, while leaving history to record the life of the QUEEN who has made her reign glorious, it will, we hope, not be out of place for us to express—on behalf of the community or industry for whom it is our privilege to speak—the sorrowing grief of all our readers at the irreparable loss we among the QUEEN'S loyal and loving subjects are called upon to bear, and our heartfelt sympathy with the Royal family whose loss is even greater than our own.

It is difficult for us—simple folk for the most part—to rightly estimate a personality in which was embodied such splendid gifts as shone out in the whole life of Queen VICTORIA, and we would rather regard her in the light of the Mother of her people blessed with an extreme kindliness of heart and a keen sympathy for suffering and sorrow whether felt in palace or cottage. This is what secured for her the affectionate love of all and what constitutes our claim in all its fulness for our late Sovereign, the character of a good QUEEN and a good woman. A bright example of a noble and well-spent life which will remain to all time for men and women to follow, and it is good for the world at large that God spared her for so long to labour without ceasing at what best befits us for following her "Home."

USEFUL HINTS.

WEATHER.—For many weeks past the weather has been of every conceivable kind other than such as is called seasonable. Of real winter, however, we have so far had but the merest touch, consequently if there be any truth in the notion that "what we don't get of winter now must come later on," there may be wisdom in preparing all colonies to endure hard frost before the flying time for the bees comes. In any case it will be a wise precaution to leave nothing to chance, and if the occasion offers on a warm day, when bees are out on the wing for an airing, it should be taken advantage of to supplement any deficiency of stores by supplying them at once with fresh made candy. Bear in mind that they may take readily to food given them during a warm time while refusing to touch it when hard frost prevails. There will be no necessity for going over all hives in making such an inspection as we suggest, nor need it involve disturbance of the brood-nest, seeing that stores can generally be judged by the outer combs, and without moving the centre frames at all.

RELIQUEFYING HONEY.—The article headed "Bottling Honey," reprinted in condensed form from *Gleanings* on page 29 last week—should serve to enlighten British bee-keepers with regard to the prejudice entertained, by some few, against the practice of reliquefying granulated honey by warming. We know that all American and Colonial bee-keepers melt honey, when solid, without hesitation and as a regular practice, but the writer of the article referred to goes a step further and actually warms his liquid honey before bottling it, in order to secure certain advantages not obtainable if the honey is perfectly cold when jarred off. He says (on page 29): "The question has been asked, why it will not do to bottle up honey cold? I will answer that by saying, if I were asked to name the quickest way to make honey candy, I would say, 'Pour it cold from one dish to another.' Besides, it would not stay in the bottles, as there would be no vacuum; and when put in a warm store it would expand and stream over the sides of the jars."

Mr. Fowls then proceeds to relate a

personal experience of his own—in support of his contention that honey should never be "bottled" when cold—which may be of service in removing a frequent cause of complaint among our own correspondents with regard to "leaking" jars. Our main object, however, in referring to this reliquefying question here is to invite readers to exercise the same amount of care in heating honey when preparing the product for market as our American friend does. They will only need to bear in mind that *boiling* honey will ruin it for table use, while it will endure a temperature of 150 deg Fahr. with no appreciable damage to its quality. But it must not be forgotten that in the reliquefying process the honey must be surrounded by water below as well as on all four sides. Heating honey by placing the vessel containing it on a stove, or in an oven, spoils it for table use.

American and Colonial bee-keepers cannot understand the objection to warming honey to reliquefy it after granulation; and from our personal knowledge we can testify to its resulting in no appreciable detriment to its quality. In fact, we regard it with as little disfavour as we should the re-melting for use of a can of frozen milk.

BEE-KEEPING IN DISTANT LANDS.—At the present dull time of the year for all that concerns the bees at home, we are glad to have readers of the B.B.J.—who are "British" bee-keepers, though dwelling in distant lands—contributing, from time to time, interesting items about the bees. In this way we have also had a few descriptions of striking incidents connected with bee-keeping in South Africa during war-time, including Mr. Sewell's account of the misfortunes of the little colony of bee-men located on the Klip River, near Ladysmith, whose bees were "commandeered" by those "takers" of everything portable—the Boers near the beleaguered town. In the case of another little apiary of frame-hives, established on the now historical "Spion Kop," the bees were "taken up" on the usual Boer plan of thrusting burning grass in at the entrance to smother the bees prior to breaking up the frames and carrying off the honey as "loot" along with the owner's household goods and farm implements. In a third case it will be remembered we had some graphic particulars of the mischance that befell a full-sized observatory hive standing in a garden inside the town, and the almost miraculous escape of its owner. The hive and bees were "blown to atoms" by a shell that burst close to; a fragment actually knocking a cup of tea out of the owner's hand without doing him any further injury. Our latest news of South Africa is, happily, of a more peaceful and pleasant kind, and the extremely interesting letter on page 22 last week will, no doubt, be read with pleasure by all.

We are also forcibly reminded that the upset caused by the turmoil of war seems to be rapidly giving place to the ways of peace, as evidenced by the following extract (kindly sent by a correspondent) from a letter written by an officer in Baden Powell's South African Constabulary, now at Bloemfontein, who writes:—

"Posts out here are very irregular; but one thing that never fails to reach me is the BRITISH BEE JOURNAL, be I at Bethlehem, or Kronstadt, Rustenberg, Bloemfontein, or Pretoria, it finds me out, and I am able to study the difficulties and inane questions of would-be bee-keepers, as also the unfailing patience and courtesy of the editors."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4215.] The weather has been very changeable here during the past fortnight; we had bitterly cold winds, several inches of snow, and a like number of degrees of frost; then a remarkably sudden thaw, then a fine, warm, sunny day or two (which gave the opportunity for a grand cleansing flight), followed by dull, wet, and windy days. As I write it has become bright again, and to-day I noticed a few bees on the wing, taking advantage of the opportunity to air themselves, and observed that some were sipping the drops of water on the

grass. This may indicate that the moisture was required for moistening the candy, or it may be that some forward stocks had started breeding. The season up to Christmas, 1900, was so very mild it may have induced the bees to start breeding, as it in some instances misled birds into nest-building and egg-laying.

I think we should be thankful to Mr. A. G. Leigh for his letter on "Glucose," &c. (4198, page 14). For myself, I may say that last autumn I sold a few dozen jars of honey to a London firm, and they were kind enough to write congratulating me on its purity, saying they found it "free from glucose!" Of course, I wrote fully with regard to my honey and its purity. The very idea that my honey was suspected of being contaminated by any admixture at all was a great surprise to me.

Clarifying Honey.—Readers of the B.B.J. know that I have on more than one occasion deprecated the clarifying process to which honey is subjected in order to reach the "prize standard" as interpreted by our "judges" during the past few years. If honey is extracted from the comb and strained ever so carefully, and allowed to stand a few days in the stove-can or ripener, then put into bottles, it will not have the ghost of a chance of first honours on the show-bench, be the quality ever so good; it may possibly get an "H.C.," but no more. If any one asks why, I answer, Simply because it has not been "clarified." Should my assertion not be credited, I say, Test it, if you do not believe my assertion, at the next honey show. Fill two dozen jars with identically the same honey, and make two entries. Stage one lot in its pure, natural condition, and clarify the other very carefully so as not to lose the flavour or cook the pollen granules; and the chances are, as I state above, your clear, transparent lot will take a "first," to the other lot's "H.C." I would commend bee-keepers and honey-producers to read Mr. Leigh's comments; also Mr. Loveday's letter in B.B.J. of December 27 (4185, page 508). Here are some "pointers" for the bulk of bee-keepers to study and put into practice.

Size of Sections.—I am glad my reference to Mr. Lamb's letter on this subject has prompted him to reply on page 21 last week. Full discussion from the several points of view must be helpful, not forgetting the proverb *re* the "multitude of counsellors." I see Mr. L. suggests a section of 5 by 4 by $1\frac{1}{2}$. This would hold when filled in an ordinary way 17 to 18 oz., and if sealed out to the wood, 19 to 20 oz. If Root's "fences" were used as separators, possibly the "Danzy" section, 5 by 4 by $1\frac{3}{8}$, may approximate to 1-lb. when filled. The Danzenbaker hive and sections are apparently making some headway, as are also the no-bee-way sections in America, but time will prove if they are come to stay, or to oust the $4\frac{1}{4}$ by $4\frac{1}{4}$ by 2 section. The fences made of wood appear to be open to improvement. When these are made in metal, so that the unfortunates in the craft can boil their dividers before using them again to prevent contagion, or the busy bee-man to quickly remove any propolis, then I think we may see the "no-bee-way" make a more rapid advance, but as worked at present I fail to see, after a few trials, any material advantage in adopting them.

Then, if we discard the separator, our standard of excellence must deteriorate, because even if three sections hang side by side in the shallow-frame, the bees, if not confined to a certain space or width by dividers or fences, would build some combs thick and bulgy, while others would be thinner to give bee-space. No, sir; we cannot dispense with dividers; and if this point be conceded, I also consider that the cluster of bees engaged in comb-building in each of the three sectional divisions of the shallow-frame would be more cramped and confined by the $1\frac{3}{8}$-in. wide oblong section than in the 2-in. wide square one, if we take as an example the, shall I say, natural shaped cluster of bees when a swarm is hived into a straw skep. It would seem that Mr. Lamb hopes to reach a higher standard by using a narrower section, but a bee-keeping friend writes me a day or two ago to say that a noted British bee-keeper tried the narrow section in shallow-frames in 1898, and out of twelve cases did not secure a *single show section.*—He (Mr. L.) also demurs to my using the term "*high* standard." When I penned that line I had in my mind a remark made by another rev. bee-keeping friend, who brought me a parcel of honey two or three years ago, and praised up the excellent quality and finish of his produce. I then showed him some racks of sections just as I had removed them from the hives, and as I lifted out the sections for inspection he said, "Why, Woodley, they are every one perfect! How do you manage to get them filled so well all through the racks?" I feel I am stating a fact that a dozen first prize sections could have been selected from any one of the racks examined. I contend that it is not always the bee-keeper's fault that his sections are not first-class either in quality or finish. There are other things which militate against a uniform "high standard" in this country when compared with America, for instance. Our seasons are fickle, our forage varied and small in extent and quantity, while the vast tracts of bee-forage in America enable bee-keepers owning large apiaries to secure in their less variable climate large quantities of sections of uniform quality. Here we have short spells of honey gathering, following quickly on perhaps a cold May, when only half the stocks are able to commence work in supers, the other half getting properly to work ten days or so later, by which time there is often a change in the weather, and consequently the results must be of a low standard in the majority of cases.

The owner of a large apiary, if he has everything "ready," may secure section honey

of a high standard if the season is favourable in June, but when July comes the *quality* will be mixed, even though the sections may be as well filled. As regards "perfect sections"—if we ever reach that standard—I hope the 17 oz. or 18 oz. of honey each will contain may bring the producer a better price than "6s. per dozen." I admit being prone to grumble on taking sections off which scale 17 oz. to 18 oz. each, because I shall get nothing for the over-weight. Again, if we wait till the bees have sealed all the cells next to the wood of the sections, we shall stand to lose a considerable part of the season, and, though our sections may be fuller, we shall have a much smaller number at the end of the season for market. But, after all, cleanliness, carefulness in handling, glazing the sections, and safe transit will wonderfully improve the present output and prove stepping-stones to success.—W. Woodley, *Beedon, Newbury.*

COMMENTS ON CURRENT TOPICS.

[4216.] "*Meditations.*"—Let me say a good word for the reviled section. I know of no more perfect receptacle for *comb* honey than the two-bee-way first grade snow-white basswood 4¼ in. by 4¼ in. by 2 in. section. I have discarded the four-bee-way, and would not have the narrower one, favoured by a few, at any price. This is not a mere theoretical statement but the result of past experience. I grant that *more* work may be done in frames, but we must study the market and work for what sells best. Frames will not sell; sections will. Then as to the complaint that bees will not go up into the sections in far north Yorkshire, all I can say is that they do in "further north" Banffshire, and work actively in five racks at one time. But to do so you must have colonies almost at the "boiling" point.

Reform and Revolution.—Yes, keep an open mind for the former, but shun all that savours of the latter as you would a certain party we are advised to give as wide a berth to as possible. Any need for a larger frame has not been demonstrated; and, as such a change would be a complete revolution, we must think once, twice, thrice before we accord it any other place than in the region of "pious opinions." Granting the premise that now and again one queen may be too prolific for our ten frames, cannot we find a way to meet her wants by taking out some frames of sealed brood and substituting others with full sheets of foundation. How simple is the remedy! yet it is effective. I trust the rev. gentleman will not take it amiss if I say the change advocated would be going on the principle of legislating for the one sinner, leaving out of consideration all thought for the ninety-and-nine who need no change. Let me nail my contention to the mast. Is it not a fact that all the largest returns recorded for years have been the result of working with the standard frames? If so, why seek for change?

Commercial Honey.—The public have a remedy for this in their own hands so far. Let them purchase honey in sections and there is no fear of buying glucose. In regard to extracted honey, some test cases should be taken up by the B.B.K.A. and an attempt made to put a stop to adulteration. It is a sin and a shame to foist such deleterious trash on an innocent public. But any man who prefers the mixture, as recorded by Mr. Leigh, deserves to be "sold." How such a depraved taste can be cultivated is rather a puzzle to a lover of good honey.

Some Minor Wants.—1. We want a gummed label with "Comb-Honey—Fragile," or some such words printed on it in prominent red letters; or the same words conspicuously displayed on the address card. I tried three supply houses for this and failed to procure it. 2. We want a piece of thin wood cut exactly to cover the ends of our parcels and sections when packing comb-honey. 3. We still want suitable boxes in the flat fitted for small orders. I use grocers' "empties" but would prefer something neater and more presentable.

Enthusiasm.—I highly appreciated the contribution of a "South Devon Enthusiast" *re* his observatory hives and a further instalment of his interesting observations will be looked forward to eagerly by many a B.J. reader. Every bee-man should be an enthusiast. If I wanted a *nom de plume* and the title had not been appropriated I would select it before all others.—D. M. M., *Banff, N.B., January* 19.

SIZE OF SECTIONS.

CAN THE PRESENT SIZE BE IMPROVED UPON?

(*Continued from page* 22.)

[4217.] When Mr. Woodley goes on to say, "I question if we should very much increase our output by adopting a narrower section than the present 2 in. one," he comes to the all-important point, which requires thoroughly thrashing out. The contrary is the whole gist of my contention. I am convinced that with a narrower section our chief gain would be a decided increase in the output of honey-comb, and that bee-keepers in this country lose tons of honey annually by using the present sections.

Ten ploughs can surely turn up a field quicker than eight! In a factory with ten stories more articles can be turned out than in another of only eight stories. At present, after supering with sections, two things may spoil the harvest. First, bad weather; if that is favourable, then swarms.

We may delay to give the stock more room lest, with change of weather, we may have many incomplete sections on hand and then when we give more room it may be too late,

for the bees have determined to swarm. But with a narrower section we would be in a better position to meet either danger, as the sections would be completed in two weeks instead of three. With the continuance of fair weather, a week or ten days after the first super was put on another could be given, so that, if the skies were propitious for three weeks, there would be a probability of taking-off two complete supers instead of one or a little more; for the second super, if placed under the first, would not be far behind it. I contend that just as skeppists, by not supering in time, compel their bees to hang out and "play" and thus lose a large portion of the harvest, so modern bee-keepers who work with the present sections by not being able to give room in time lose an appreciable quantity of honey because an ever-increasing number of bees are forced to remain idle during the process of ripening and lengthening the cells.

It is for this reason I hesitate to use Lee's shallow supers as well as Howard's broad self-spacing shallow frames, unless the honey season has begun well and there is a promise of continuance of fine weather. Even with these, and only during the first week, I estimate the loss at about 20 per cent. I have proved it in this manner:—After giving four strong stocks boxes of ten shallow-frames filled with foundation, I have been able in the second week to take out two worked-out frames from each and make up another super, and thus have five supers of eight frames, each in as advanced a state as your supers with extra broad frames would have been. Here, then, is a clear gain of one super in every four. But with sections, when ripening of honey in ordinary seasons is also taken into account, I would place the loss at about 25 per cent.

Next Mr. Woodley points to Nature as if it were on his side. This appears to me to be his weakest line of defence. I deny that the present section holds the average thickness of natural honey-comb, which varies greatly (from ½ in. to 3 in.) I would place the average somewhere between 1 in. and 1½ in.; certainly not beyond. One cannot but smile at our friend's words when he writes:—"Excepting the confined space in the section-boxes, we impose no unnatural condition in, as it were, compelling the bees to build combs for honey of the width in the ordinary 2-in. section." That is, he admits, that what I call the "puzzle-boxes" are unnatural, but he is unwilling to modify them—not to lessen their capacity (for this we do not ask)—but to alter their shape.

If he holds up his hands in horror at this minor change, I can only say that this is the latest instance I know of one ready to "strain at a gnat and swallow a camel." I would ask, How are we to find out the true average as regards thickness of honey-comb? Will other brother bee-keepers come forward and give us the results of their observations? We cannot, I think, go to America—whence the present section came—or some other country where the climate is more regular; that would hardly be fair. Then, if we confine ourselves to Great Britain, there are different conditions under which we can study comb-building. Occasionally, for instance, we come across a bee-nest built in the open. A friend only this week showed me one built the season before last in a hedge and carefully removed by cutting the branches which supported it. The shape of it is such that it would require a hive about 1 ft. square and 18 in. high; and if we copied it, we should not go in for thick combs at all, as there was scarcely any as thick as 1½ in. Nor do I think that ordinary skeps, unless they are large and flat-topped like the Pettigrew, can help us much. In the smaller skeps the end combs are thickened, obviously in order to fill up spaces, yet even in these I have noticed now and again two combs—the end one miserably small and thin—where one might have expected to find an extra thick comb.

Do not the questions, then, arise—If the bees, as we see, do not build combs for honey invariably of a regular thickness, why, when, and where do they build extra thick combs? To "where," I would answer, generally at the ends; "when," perhaps mostly towards the end of the honey season; "why," not because they prefer it, but because circumstances compel them to build it. Partly to fill up space, but chiefly because needing additional store-room and not having sufficient number of bees to spare to build another comb, they can but lengthen the cells of the last or outer combs.

I say this because I have found that when a strong colony, requiring more room, is supered with shallow frames having strips of foundation, they have worked out the combs evenly; but when the same super has been placed on weaker stocks, and the bees have taken to it, the result has been a few extra thick and uneven combs. Whence I have concluded that, owing to the lack of numbers and heat or the waning of the season, the bees had only one course open to them—to elongate some cells.

A simple way of discovering the thickness of comb suitable or natural for bees housed in frame-hives would be to give a few strong stocks section-racks minus sections and foundation, but covered with a board, and let the bees build as they please.

I should be greatly surprised if the result of such an experiment were combs nearer 2 in. than 1 in. thick.

Next week I hope to deal more fully with—or shall I say take to pieces?—Mr. Woodley's illustration to say how a narrower section will affect the heather harvest, and throw out some suggestions as to the course those who are ready for a change may pursue.—RICHARD M. LAMB, *Burton Pidsea Rectory, Yorks, January* 19.

(To be continued.)

BEE-KEEPERS' DEFENCE FUND.

[4218.] When this subject was discussed I was unfortunately prevented by ill-health from attending the Council. I am in full sympathy with those who think something ought to be done to protect the interests of bee-keepers who may be troubled by threats of legal proceedings, or by actions at law; and if no better means than a defence fund should ultimately be adopted, I will send a guinea toward such a fund. I think, however, an *Insurance* fund would provide much more adequate means for the object in view. Such a fund could be easily provided by those who joined in the project, paying an annual assessment of a few pence per hive. Then, by an arrangement with one of the "Accident Insurance" Companies, it seems to me, a very strong sense of security might be reached. Moreover, if the insurance company employed their own solicitors for the defence of bee-keepers, there would be the additional safeguard of first-rate professional service.—W. H. HARRIS (*Vice-Chairman B.B.K.A.*), *Jan.* 19.

SOME ESSEX NOTES.

[4219.] *Ancient Bee Books.*—The Rev. A. A. Headley (4214, page 27) in closing his notes on ancient books, refers, and rightly so, to the debt that we in this generation owe to those who in days gone by handed down to us the results of their labours and researches in bee-keeping. Thus we see that, while doing their duty to themselves at the time, they realised what was due to future generations of bee-keepers. That this sense of duty and brotherly love may animate all bee-keepers of to-day, and be handed down to those who come after us, is the hope of all true bee-men.

With reference to the letters of "G. S. W." (4211, page 27) and that of A. G. Leigh (4198, page 14) I think nine out of every ten of your readers quite understand that Mr. Leigh in the last paragraph of his letter refers to run honey only. He does not appear to be dealing with comb-honey at all, or even thinking of it, judging by his letter. Moreover, he is quite correct in saying that "by October most pure honey is solid," and that some of the best granulates soonest. Pure sainfoin honey will often be well granulated a month after extracting. On the other hand comb-honey, which once sealed by the bees is not afterwards exposed to the air, may be kept in good condition for a whole year.

Size of Sections.—As to whether the present size of section can be improved upon, my own opinion is that, everything considered, the present section for comb honey is satisfactory for all purposes, and when utility has to be considered, I think the present square section cannot be beaten. A taller section is more imposing in appearance, but I think less useful. Two-pound sections look nice but are less saleable. I do not think a thinner or narrower section than the present 2-in. will do at all. It might please the eye of some, but only to find afterwards that the palate had been deceived. Some of my customers want as little wax as is possible with comb honey. The narrower the section the more wax there will be in proportion to honey. I agree that the percentage of perfect sections is small, but is it not so with everything else? As we, rightly, have no control over the weather, which has more to do with perfect or imperfect sections than anything else, we can only do our best, but whatever is adopted as a receptacle for comb honey I dare say our bee-keepers will get them to as high a standard of finish as is possible.

The Housing Question.—The thanks of all cottagers, cottager bee-keepers in particular, are due to Mr. Till for his efforts to secure for the labouring population of his neighbourhood decent accommodation—as shown in your pages of January 3 (page 7, 4195), for a little leaven well placed in Kent would by degrees leaven the whole lump. It is most regrettable that in this enlightened country many of us should, even in districts where land is of comparatively little value, be compelled to live in a way that makes decency next to impossible, to say nothing of keeping bees, or anything else, in comfort.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex, Jan.* 19.

AMONG THE BANANAS;

OR, BEE-KEEPING IN NATAL.

[4220.] About the hives there was nothing remarkable. They were ordinary wooden hives, such as may be seen in any apiary, but not so my assistant. He was a tall, strong-limbed Kaffir "boy," who, when not otherwise occupied, composing love songs, for instance, or taking snuff, answered to the name of "M'Lando."

By slow and not unpainful processes he had been initiated into the mysteries of house-keeping, and had learned many things since he left his kraal for a white man's "kia" (home), and seen the bewildering appliances of a modern kitchen. His mistakes had been numerous. His first task had been to light a fire, and with a fine ingeniousness he had found a cosy place for it in the oven! Another time when told to bring in the porridge he had brought it—porridge-pot and all—and planted it right in the centre of a clean-laid table-cloth!

In handling bees he proved equally serviceable. A "still" day had arrived, and with it hopes of a profitable interview with our little friends. A heat haze shrouded the hills and lay like a deep mantle on the valleys, but rain was the last thing to be thought of, and only the faintest breeze stirred the broad green leaves of the bananas.

M'Lando said nothing when I emerged from the front door in riding gloves and bridal

veil, but a few minutes later issued from the back, his black head enveloped in a green butterfly net, kept from encircling his neck by the white brim of an old sun helmet. His hands were bare, but his knees and ankles he had swathed in hastily-donned clothes and protecting rags of all colours. It was the bees, not M'Lando, who might well feel afraid.

Wreathed in smiles and green gauze he followed me gleefully down the pathway, strode with silent courage through the garden and the orchard, and never faltered till we neared the bananas and he caught a glimpse of the hives. Stoppages for the rearrangement of his "putties" then became more and more frequent; at last, however, I handed him the smoker, or "little gun," and in an agitated whisper assured him "there was really no need to be afraid."

The hives looked harmless enough from the outside, but we "wanted to see how the wheels went round." The first hive-roof or lid (it was also the last) proved somewhat stiff, and M'Lando shook the hive impatiently. Then the heavens opened on the bees and the bees on us! Their world had been stirred to its foundations. Singly, in companies, battalions, legions! they attacked. The air around was one terrific buzz. I had come out to distract my thoughts from the Boers, who were rumoured to be within a day's ride of us, and the fear that next morning we might be awakened by a shell, and certainly they were distracted. Here I was in the midst of a fray alone, unarmed against an enemy ten times as numerous as the Boers. All that I had ever heard or read at that moment I remembered about the sweetness, meekness, and docility of the honey-bee. But it was the life's mission of every bee in that hive to disprove it.

With one wild leap and wilder yell! M'Lando fled. He was followed in hot pursuit. On he crashed through the bananas, regardless of thorns and heedless of snakes. Smoker, putties, helmet, veil, marked the route. At last a speck in the distance proclaimed a parley. Here were the hives, yonder M'Lando, a field of glowing pineapples stretched between.

I was left to replace the lid of the hive or leave it roofless if I chose. I might obtain any aid I liked, but not till after many days did M'Lando venture again among the bananas.—MARY RITCHIE, *Thornhill, Bellair, Natal, South Africa.*

THE PAST SEASON IN YORKSHIRE.

SOME RESULTS FROM "WELLS" HIVES *v.* SINGLE STOCKS.

[4221.] The enclosed report for season 1900 may be of some interest to bee-keepers who consider the "Wells" hive a great nuisance on account of the bees swarming therefrom. I have again worked through a full season without a single swarm from any of my "Wells" hives, although five of them were away in the country about three miles from my home, and I had to work between the two places. The only stock in my apiary that swarmed last year was one single-queened colony, which I quite expected, because it was rather neglected and partly on account of a few cold days coming about the time it should have had my attention. I have great confidence now after this test in sending "Wells" hives away into the country without fear of swarming, but perhaps I might be "caught napping" on some extra good flow of honey. I must say, however, that three of the "Wells" hives mentioned below, and one of the single ones, have not swarmed for the last three years. I should like to thank Mr. Peebles, through your journal, for his kindness towards a brother bee-keeper in sending me drawings of his heather-honey press, which I find, after a few seasons' work, a splendid press. I can recommend the same with every confidence.

I am pleased to say nearly all my honey is sold, having only about 150 lb. of pressed heather honey left, and 26 lb. of beeswax. All my extracted honey I sold to a chemist, who told me they had previously bought foreign honey, but found, now that his customers could buy English honey at a reasonable price, they preferred to do so. I can assure you these remarks pleased me very much, and I felt quite proud to be a bee-keeper.

			Total.
(*a*)	Wells Hive	Extracted Honey 98 Pressed Heather 54	152
(*b*)	Do.	Extracted Honey 118½ Pressed Heather 60	178½
(*c*)	Do.	Extracted Honey 46 Pressed Heather 49	95
(*d*)	Do.	Extracted Honey 49 Pressed Heather 52	101
(*e*)	Do.	Extracted Honey 85 Pressed Heather 50	135
(*f*)	Do.	Extracted Honey 61 Pressed Heather 47	108
(*g*)	Do.	Extracted Honey 72 Pressed Heather 54	126
(*h*)	Do.	Extracted Honey 126 Pressed Heather 60	186
(*i*)	Single Hive	Extracted Honey 31 Pressed Heather 27	58
(*j*)	Do.	Extracted Honey 30½ Pressed Heather 10	40½
(*k*)	Do.	Extracted Honey 23 Pressed Heather 18	41
(*l*)	Do.	Extracted Honey 28 Pressed Heather 26	54
(*m*)	Do.	Extracted Honey 23 Pressed Heather 11	34
		Total lb.....	1,309

P.S.—I have great pleasure in sending a small subscription towards the "Bee-keepers' Defence Fund." I trust we bee-keepers will not allow another "Basingstoke Case" to be shelved without a struggle.—J. H. HORN, *Bedale, Yorks, January* 21.

BEE-KEEPING IN SCHOOLS.

[4222.] I am much obliged to "F. E. I. S." for his response, on page 26, although regretting that so able a man cannot be tempted south. I am obliged to him also for correcting me on the subject of Scotch salaries. I am told, but it may not be on good authority, that "F. E. I. S." hails from Banffshire. Now a Scotch farmer friend of mine here tells me that in the north "Go to Banffshire" is equivalent to our "Go to Jericho!" indeed, he says, this behest for "*translation*" may be still more forcibly translated. On the subject of trade advertisements in public elementary schools (to which I referred) by means of gifts of so-called educational cabinets, I have obtained from the Board of Education the following opinion, viz.:—"That while the Board have no power absolutely to forbid managers of schools making use for purposes of instruction of articles sent to schools with a view to advertisement, they discourage the practice as much as possible. In very few instances," it is added, "are the pictures or articles sent really suitable, and when they are not the inspector tells the manager so."—E. D. T., *Eynford, January* 19.

LECTURES ON BEE-KEEPING

IN SMALL TOWNS AND VILLAGES.

[4223.] I should like to call the attention of our clergy, ministers, and experts to the great service they might render to bee-keeping, and the pleasure they might afford their neighbours, by giving lantern-lectures on apiculture, especially during the winter season. This matter has been once more impressed on my mind by an experience of my own. On Monday, the 14th inst., I fulfilled a promise to give, in the Hillingdon Parish-room, a talk on "The Wonders of the Hive." At the hour for beginning there was a crowded audience. The Rev. F. D. Sturgess, B.A., the curate of the parish, admirably manipulated the lantern and the B.B.K.A. slides, and I had also the beautiful diagrams published by the Association from the late Mr. Cheshire's drawings. For nearly an hour and a half there was a really rapt attention on the part of my auditors, and when all was over, and the customary votes of thanks had been passed, the people seemed inclined to stay on in the hope that there was more to see and hear about the marvellous insects. I know, also, there was a good deal of talk in the village about the pleasant time they had spent. Now I should very much like the council of the B.B.K.A. to take into consideration the preparation and type-writing of a lecture, which could be hired, with the Association's set of slides, and which might be safely used even by persons not very familiar with bees and bee-keeping. I am convinced that by such a lecture, or similar ones, delivered in many of our rural districts, the pursuit of apiculture would be largely extended; the interest of young people in the natural history of the bee, and the advantages of bee-keeping would be aroused; and much advantage, directly and indirectly, would accrue to our county associations.—W. H. HARRIS, *Hayes End, near Uxbridge, Jan.* 19.

HOW TO UTILISE SWARMS.

[4224.] I have read the letter from "D. P. H." in your issue of November 8 last (4131, page 439), and also the remarks on the same subject by "G. S. N." (4191, page 4), and beg to state, for the information of those gentlemen and any one else interested, that I have tried the plan proposed, but did not find it a success. In fact, out of ten stocks, the one experimented upon last year gave me the least return. One entrance and two excluders were used, and the bees were given brood-frames, with drawn-out comb. Although the mother-queen was but nine months old, my observations led me to the conclusion that the bees just ignored her and gave all their attention to their royal sister.

This is unnatural, but it is "business," and goes to prove that our little winged friends strongly favour the theory of the survival of the fittest. This I proved last year in another way. I fixed a partition in the centre of a brood-chamber and placed a good laying queen on either side. They also were mother and daughter. Result:—Nearly all the flying bees found their way to the combs presided over by the younger queen, and it was only when I temporarily closed the entrance on that side that the older queen could get a share of the good things going.

As to applying swarms to the best advantage, I have found the following to work well:—Remove old brood-chamber with young queen to a new position. Place new chamber on old stand, and put in it as many combs of sealed brood as can safely be spared from the old stock. Add to these a few frames containing starters, place on the excluder and supers, and return the swarm to complete the work in hand.

Caution.—Feed the old stock until the bees are self-supporting. Later on, if an increase in stocks is not desired, remove the older queen and unite.—E. MAXWELL, *Claremont-road, Liverpool, January* 19.

Queries and Replies.

[2577.] *How to Re-queen Cheaply.*—I remember reading in your pages about a couple of years ago an article with the above title by an American bee-keeper, in which was described a method of queen-raising, suitable for those who wished to re-queen stocks, without having recourse to the scienti-

fic methods practised by skilled bee-keepers with plenty of time on hand. I do not preserve my bee journals and so cannot refer to the article alluded to, but I think it would be useful to many others besides myself if you would give the substance of the plan I have in mind for the benefit of those who would like to raise some queens by a simple plan during the coming season. Hoping I am not asking anything unreasonable, I sign myself—A CONSTANT READER, *Yorks*, *January* 19.

REPLY.—The article referred to is too long for insertion in its entirety in this column; it will, however, serve our correspondent's purpose to give the following extract, in which the writer (Mr. Delos Wood) says:—

"I would set apart my two best colonies of Italians, one for rearing drones and the other for queen cells. To the one for drones I would give a large amount of drone-comb. The other I would stimulate by feeding, to induce the swarming fever, giving plenty of worker-comb in two-story hives, so as to get as large a swarm as possible. This swarm with the old queen I would put into an empty single-story hive and let them build comb in as many frames as possible. After the queen has begun to lay a small circle of brood in several combs, I would take her from the hive and give her a new colony. I would then take each of these new combs of brood and cut around through the circle of cells, just in the same ring that the queen lays, leaving the larvæ (just hatched) at the bottom of the piece of comb left in the frame, taking off the lower part of combs containing only eggs. These larvæ are hatched usually the third day from the time the eggs were laid. The bees are now in their best condition for all kinds of work, and will build queen-cells by wholesale and of the best quality, and will put them on the bottom of this cut comb, which, being cut in the shape of the edge of a saucer, will cause the ends of the cells to spread out from each other as you can spread your fingers apart. This gives room to cut out each cell without injury to any other.

"These eggs were laid within a few hours of each other, and will all hatch at the same time, and may all be removed to the nuclei at one time, and the young queens will all, or nearly all, begin to lay at the same time. These queens will be raised in a full colony, under the natural swarming impulse, and will be 'the best queens in the world.' If one chooses to watch the old colony awhile, many good queens may be obtained from that. Queens raised in this new comb are, I think, apt to be brighter than those reared in dark combs. Advocates of leather-coloured queens should hive the swarm on old combs."

[2578.] *Transferring Bees to New Hives.—How Frames should Hang.*—I should feel much obliged if you would answer the following questions:—1. Will it affect a colony of bees to transfer them in the spring from their present hive in which the frames hang from side to side, or parallel to the entrance to a new one having frames running from front to back? 2. What is the advantage of adopting the latter system?—R. L. BARR, *Worcester Park, Surrey, January* 21.

REPLY.—1. No harm will follow if done quickly on a warm day. 2. It is considered by the majority of bee-keepers that not only is better ventilation secured but the risk of having entrances blocked by dead bees in winter is minimised by having frames hung at right angles to entrance.

[2579.] *Preventing Swarming.*—I shall be obliged for your opinion on the following plan as a means of preventing swarming and gaining a larger return of extracted honey. When brood-chamber becomes crowded with bees and it is time to put on supers, take out two or three of middle combs—brood, bees, and all; place them in another brood-chamber or body-box, same size; and put it in as super with excluder-zinc between, filling up the brood-chamber with two or three frames of comb or foundation, and, of course, filling up the super-chamber with frames of foundation. Thus the queen would have room for laying, the bees room for working. In the immediate surroundings there are about 100 good lime-trees and plenty of clover, &c. To me this plan seems to have the further advantage of having only one-sized frame in my apiary.—E. HAYDEN, *Louth, Lincs, January* 15.

REPLY.—The proposed plan will work advantageously if care be taken first to leave the queen in the lower chamber or brood-nest; second, to cut out any comb containing drone-brood, if such is seen on the combs placed above. Finally, do not omit closing up the brood-combs left below, and placing the frames of foundation outside the brood, unless the bees are sufficiently strong to avoid brood-chilling.

Echoes from the Hives.

Thornton Dale, Yorkshire, January 21.—The weather here for the past two or three months has been very bad, although a few fine days have, fortunately, enabled the bees to get a good cleansing flight. Owing to the weather being as a rule, however, very open, stores in the hives appear to have dwindled down greatly, and a good candy-cake has been useful as a refresher. The proverb says, "Everything comes to the man who waits;" but for a realisation of its truth one may have to begin "waiting" when very young and live to be very old. However, spring will come round once again with its reviving influence, and the bees will soon be stirring more often.

Meantime, we must content ourselves with preparing for the busy time by getting new hives and other "needfuls," made at home or bought, so as to have everything ship-shape, ready for use. Outdoor work in the garden here is almost at a standstill. So far our old foe, the tom-tit, has not paid us many visits, there being, apparently, a chance of his foraging in the hedges and woods during the open weather, for which I am thankfully inclined to feel kinder towards him.

I have been very much interested in the "Fugitive Papers" on ancient bee-books in your pages of late, and could have wished for more of them, or the means wherewith to have furnished myself with some of the ancient books dealt with. I was also much pleased to see that Mr. Rymer's idea of preventing swarming is going to be fairly tried by bee-keepers. I imagine it will be well tried in this part of Yorkshire. Wishing all bee-keepers a successful season.—G. A. Barnes.

Icklesham, Rye, Sussex, January 21.—What changes of weather everywhere! Yesterday it was very good here, bees flying in all directions, and the hum made one think of summer days, which are, I hope, in store for us. We have primroses in bloom, and snowdrops already peeping up from the ground after their long rest. I had a skep of bees given me the other day, which was blown over and the combs all tumbled out, but with the help of two iron pins I fixed them in again, and yesterday the little workers showed their appreciation of my fixing them up by flying quite merrily. I will send word how they fare later on. Wishing all bee-keepers a successful year, and thanking you for information got through the B.B.J. during past years.—Henry Clarke.

PRESS CUTTINGS ABOUT BEES.

INTERESTING, USEFUL, AND "OTHERWISE."

Chinese White Wax.—The white wax exported from China is not beeswax, but is made by the curious method of using minute insects in its production. These insects are found in brown, pea-shaped excrescences or galls, somewhat similar to our common "oak-apples," attached to an evergreen tree called the "insect-tree." The galls are gathered in May and carried to the market towns by bearers, who travel at night so that the heat may not force the insects to emerge from the gall during the journey.

They are then placed on the "wax-tree," which is a stump varying from 3 to 12 ft. in height, with numerous branches rising from the top, similar to the pollard willow.

The wax insects are made into small packets of twenty or thirty galls, which are enclosed in a leaf of the wood-oil tree fastened together with rice straw. These packets are suspended close to the branches, under which they hang. On emerging from the galls the insects creep rapidly up the branches to which they attach themselves and begin forming a coating of wax, which, in about three months, attains a thickness of almost a quarter of an inch.

The branches are then cut off, and, after removing as much of the wax as possible by hand they are put in a kettle of hot water, when the remaining wax floats on the surface and the insects meet the reward of virtuous industry by going to the bottom!—*Science Siftings.*

Irish Honey.—Peasants in Donegal are anxious to find a good market for the large quantities of honey with which the county is favoured. The honey industry is almost a new phase in Donegal life. Last autumn samples of honey were sent to various parts of the kingdom, and its excellent quality was everywhere appreciated. But unfortunately the wholesale buyers and the middlemen absorbed so much of the profits that the industry cannot prove so remunerative unless the consumers are dealt with directly. Those who wish to give the honey a trial are asked to write to the Rev. R. Michael, Kilmayrenan, co. Donegal.—*Temperance Caterer.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. A. A. (Bristol).—*B.B.J. Advertisements.*—There can be no objection to replies to advertisements being addressed to "Care of B.B.J. Office." All we require is payment for repostage.

C. H. Marathe (Manchester).—*Bees in India.*—1. But little information is available on the subject, but such as we have in our Journal will be forwarded on receipt of 2d. in stamps. 2. Mr. F. H. Taylor, Hon. Secretary of the Lancs. B.K.A., Old Hall-lane, Fallowfield, Manchester, will, no doubt, be pleased to show you his apiary by appointment.

H. May (Wallingford).—*Bee-keepers' Defence Fund.*—Much obliged for your promised contribution, which has been duly noted along with others.

F. Kenward (Lewes).—*Making Observatory Hives.*—The number of *Work* in which the article appeared is out of print, as mentioned by us recently.

J. Sopp (Crowmarsh).—Write to Mr. Young, Secretary, B.B.K.A., 12, Hanover-square, London, or to the Secretary of the Exhibition referred to.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 17th inst., at 105, Jermyn-street, S.W., presided over by Mr. W. H. Harris (Vice-Chairman). There were also present Miss Gayton, Messrs. W. Broughton Carr, J. H. New, W. F. Reid, E. D. Till, E. Walker, T. I. Weston, F. B. White, and the Secretary.

The minutes of the previous meeting were read and confirmed.

Mr. R. T. Duncan, Dinas Powis, near Cardiff, was elected a member of the Association.

The Report of the Finance Committee was presented by Mr. Weston, the balance on December 31 being £46 8s. 7d. A number of cheques were ordered to be drawn in settlement of accounts due.

Mr. Ernest Walker gave particulars of the examiners' awards in connection with the late examination for Second-Class expert Certificates, and it was resolved to grant passes to the following candidates, viz. :—J. Herrod, F. A. Pay, and W. T. Swainson.

Mr. Weston placed certain offers he had received from manufacturers and dealers of hives for use in the Association's apiary at Swanley, and these were duly considered and dealt with by the Council.

The Secretary reported upon an interview with the Baroness Burdett-Coutts, President, in regard to the Association and its work, and was asked to communicate further with her Ladyship in respect to several matters of importance.

A letter from Mr. Wm. Loveday, *re* classification for old honey at shows, was placed before the meeting, and it was resolved to deal with the points raised, when compiling prize schedules, at a later date.

Amongst other correspondence dealt with by the Council was a letter from the Chairman, Mr. T. W. Cowan, expressing his continued interest in the welfare and doings of the Association, and accompanied by a welcome contribution of £5 to the funds of the Society.

The next meeting of the Council will take place on Thursday, February 21.

IRISH BEE-KEEPERS' ASSOCIATION

A meeting of the Committee of the I.B.K.A. was held on the 17th inst. in Dr. Traill's rooms, Trinity College. Present : Mr. O'Bryen, in the chair, Messrs. Abbott, Watson, and M. H. Read, Hon. Secretary.

A sub-committee was appointed to revise the privileges of members. It was also resolved that no payment beyond that of travelling expenses be made to "honorary experts" for visits to apiaries of members of the Association.

An encouraging account of the annual general meeting of the Lough Rynn Association was before the meeting, having been forwarded by the President, the Rev. J. G. Digges, at which the following resolution was passed :—"That this Association desires to impress upon the Board of Agriculture the importance and necessity of giving assistance to the industry on the lines laid down in the scheme recently presented to the Department by the I.B.K.A." This was the pioneer local association affiliated to the I.B.K.A., and has its own depôt, managed by the secretary, which supplies all bee requisites to members at prices much below those usually charged. Its membership has increased to fifty-two, extending into the counties of Longford, Cavan, Roscommon, and Galway.—MATTHEW HY. READ *Hon. Secretary.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SIZE OF SECTIONS.

CAN THE PRESENT SIZE BE IMPROVED UPON ?

(*Continued from page* 35.)

[4225.] From the latter part of my article last week (page 35) it will be seen that I consider Mr. Woodley's illustration inappropriate. Its wording is also rather vague. If a swarm has chosen its own location and furnished it with combs by its own unaided efforts, I cannot agree with our friend when he says (page 12), "that the brood-combs are built of the required thickness for brood" if he means only for brood, for frequently a good deal of honey may be found above the brood and the portion which contains the honey is but slightly thicker than that in which there is brood.

Nor when he says, "the outside or store-combs are built somewhere about 2 in. thick," can I admit that he has hit upon the average thickness. I think it lies somewhere about 1½ in. ; a small portion may be thicker, but the greater part is narrower. But supposing, for argument's sake, that Mr. Woodley's illustration is a fair one to show us the natural thickness of honey-comb, then I would draw his attention to the proper position for thick sections—at the sides of the brood-nest, and not above it. By putting these sections directly above he does impose another unnatural condition. To follow nature closely, we should have at least two kinds of sections ; most of the sec-

tions should be narrow to place above the brood, and a few of greater width to go at the outsides. Thus I might claim the illustration as supporting my view as much as his.

Then the question may arise, How far we should copy nature? to which probably more than one answer would be given. The time for copying it in its crude state has, of course, gone for ever, as much as for the present ocean greyhounds to copy skippers of old who skirted the coasts in their voyages.

The late Mr. Pettigrew, I think, was the last and ablest of the old school who stoutly opposed modern bee-keeping, and he did so partly because he sincerely believed it was contrary to nature. And since then how we have been going from bad to worse! How shockingly unnatural we have all become by adopting—the *foundation* to check the building of curved combs, as well as the raising of a liberal supply of drones—the *excluder*, which forbids the queen to roam all over her domains; the various means and methods, even the destruction of queens in embryo, to stamp out their natural propensity of swarming—and the super-clearer giving them notice to quit, without giving them a chance to strike a blow in defence of their own. In comparison with these, is it very wrong to go a step further and narrow the section in order that it may hold an average thickness of natural honey-comb? But, seriously, I would not say that our apparatus and methods are unnatural. I look upon them as nature developed—nature guided, controlled, raised, and improved by the aid of human intelligence, and our duty is to go on and, as far as possible, to perfect it.

If Mr. Woodley thinks that a narrower section is not more natural than the present I must let him settle the point with Mr. Cowan. The other day I took up the "Bee-keepers' Guide-book" to see if beginners were warned as to the discouragement they might expect in some seasons if they used sections in preference to shallow-frames. I am sorry to say there was no allusion to it. I cannot, therefore, regard the book as up-to-date in this respect. But on page 60 (16th edition) Mr. Cowan says that the frames "in the upper storeys may be placed $1\frac{1}{2}$ to $1\frac{3}{4}$ in. from centre to centre," that is, we may conconsider a receptacle which is $1\frac{5}{8}$ in. thick as one of a happy medium for honey-comb in this country. Let me, then, draw the attention of all bee-keepers whose minds are open to this splendid corroboration of the point for which I am striving. Here is a book which has been carefully revised over and over again supporting my view as to what the proper thickness of sections should be.

The aspect of sections on the moors I must deal with another time, when I hope also to conclude these articles.

For the present I would only add, lest any one should misunderstand me, that I admire extra thick honey-comb; long enough have my aim and ambition been to produce the thickest. But however high our ideals may be, we must not forget that we live in a world in which the environment has to be taken into account and our ideals have to be constantly, though reluctantly, lowered in order to become practical. This is true in most walks of life and my brother bee-keepers must not imagine they can escape it.

All honour to those who introduced the 2-in. section. I fully believe they took the best course they could at that time, but since then a rival has sprung up—the shallow-frame; and after many seasons of comparison between the two we have found the section wanting. I cannot therefore now regard any who know how wide and general the dissatisfaction is in reference to the present sections, and would yet bolster them up as the best friends of apiculture.—RICHARD M. LAMB, *Burton Pidsea Rectory, Hull, January* 28.

Erratum.—Page 35, middle of first column, for "your supers" read *four* supers.

THE "WELLS" SYSTEM.

[4226.] The results of working hives on the "Wells" system—given in the report of Mr. Horn of his takes of honey in the season of 1900 (page 33)—to my mind, possess more interest as showing the chemist's preference (along with that of his customers') for British honey than in demonstrating the superiority of the "Wells" system over the plan generally adopted. The figures certainly show an increase in favour of the former system, but not in proportion to the amount of inconvenience experienced by the average bee-keeper in dealing with two stocks at one and the same time. I, in common with others, look for Mr. Wells's report each year with interest, and we all thank him for publishing it (on page 508 of B.J. for December 27 last). The respective figures of Mr. Wells and Mr. Horn show about the same average for work on the double-queen plan, while Mr. Horn's results from single hives are about equal to my own for last year, and show about the same amount of increased yield in favour of the one "Wells" hive that I worked for honey. I have, for the sake of comparison, worked two stocks on the double-queen method since Mr. Wells brought it to notice, besides turning the system to account in other ways; but the opinions formed of it in the earlier days, viz., its unsuitability for general adoption, becomes more fully confirmed as each recurring year's experience is added and the figures compared. To the inexperienced bee-keeper I therefore say, be cautious in trying the plan. I think it must be clear to most of your readers that the sum given in Mr. Wells's report as "expenses" for the year's working does not include many items that most of us have to meet.

Size of Sections.—In his contentions against the 1-lb. section now in use, I note that the Rev. R. M. Lamb says (on page 35), "If the bees,

as we see, do not build combs for honey invariably of a regular thickness, why, when, and where do they build extra-thick combs?" Now, if it is your rev. correspondent's experience that bees do not build thick combs when instinct shows them that that comb will be used for storing honey, I can only say his experiences do not agree with mine. I have removed many colonies of bees from buildings, and have noticed that as the bees need more room—as, for instance, in a good season following a poor one—such combs as were built thick in the previous year are then wanted for raising brood, and are pared down to the required thickness for brood. In the hives, too, I notice that when comb is wanted for honey-storing the cells are lengthened out, and if at another time those same cells are needed for brood-rearing they will be left at the required thickness for the purpose. Take a small box or a glass super as an illustration. I have known a bell-glass 4 in. or 5 in. wide to be well-filled with only a single comb from 3 in. to 3½ in. wide, simply because, it seems to me that the first use the bees intended to make of it was to store honey. — WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

RURAL INDUSTRIES.

BEES, POULTRY, AND FRUIT-GROWING.

[4227.] Reverting to Mr. Forbes' letter on page 17 and the promise made to him on page 6 in B.B.J. of January 3 and 10 respectively, I presume your correspondent will not "go in" for the rural occupations mentioned before next autumn; and in the meantime I should most strongly advise him to read up each of the subjects he intends taking up; also, if possible, to visit some poultry-farmer, fruit-grower, and apiarian. He will then get some idea of managing such a concern.

The locality can also be decided on, and here he has plenty of choice, as the Thames Valley, Norfolk, Cambridge, Kent, &c., are all fruit-growing districts; but, of course, nearness to a possible market, or station with a quick and cheap service to a large town, should be considered.

And now I suppose the first question will be, how much and what class of land will be best? As bees and poultry would be at home on any soil, excepting a very damp one, that which is most suitable for fruit should be selected, and I think most practical men are agreed that the majority of hardy fruits succeed best in a rich, deep loam, with a gravel or clay subsoil.

If an orchard of about five or six acres, properly planted with good trees, could be rented, this would be large enough for a start, and as experience in management is gained it could be extended as required; or, if preferred, unplanted land might be bought or rented, and then planted with the choicest sorts for market purposes. Should he decide on this method, I will give him a list of the best trees and bushes, methods of planting, and an idea of the cost per acre.

If Mr. Forbes is well up in apiculture, he might start with, say, thirty to fifty hives; and, in my opinion, the best bee for the purpose would be a Cyprian and Carniolan cross. The hives should be as simple and light as possible, consistent with strength and efficiency.

The cheapest way of forming the apiary would be by getting from sixty to 100 driven lots of bees, putting two together on eight frames, and feeding until each hive had about 30 lb. of sealed stores. If in the meantime a few stocks could be purchased and devoted to forming nucleus colonies and queen-raising, —young queens and other things being equal— flourishing stocks to take advantage of the first honey-flow would be a certainty.

For egg-production there is no breed of fowl to equal the common farmyard black Minorca, while for table purposes an Indian game and Dorking cross cannot be excelled, as they make fine meaty birds when quite young. About 200 hens of the former and 100 of the latter, with two or three first-class incubators, would make a fair start in poultry department.

If ducks are included—and properly managed they are most profitable—the pure white Aylesbury is the best, for the ducklings can be got to weigh 4 lb. or 5 lb. each when ten weeks old, and, therefore, before a greater part of the food is required to nourish the feathers.

I enclose my card, and will be glad if you will forward it to Mr. Forbes, as I should like to give him a few hints that hardly come under the category of apiarian topics.—A NORFOLK BEE-KEEPER, *Swaffham, Jan.* 24.

SECTIONS *VERSUS* SHALLOW FRAMES.

[4228.] I have been very much interested in the recent letters of Mr. Lamb *re* the thickness of sections, and last summer I had such a striking proof of the preference of bees for shallow combs that I think it may be of general interest. By way of making a trial of them, I worked one hive last year for extracted honey with the wide "W.B.C." ends instead of the ordinary ones spaced at 1⅛ in. My first super of shallow-frames was given to the bees with full sheets of foundation. Then they drew out and sealed so as to make the total thickness of comb about ⅞ in. The space which was left they then proceeded to fill with other combs built parallel to the rest, and attached to the top bars on each side, thus practically joining every bar together. They then had a box of frames with drawn-out combs given them, and then they actually proceeded to pare down or cut back slightly in order to allow room for putting in their central thin comb between each pair of frames. I am absolutely

certain that the queen was below, as I had a standard pattern excluder, and the frames were examined about once a week, and boxes of frames removed at intervals all through the honey-flow. Altogether the bees drew out four boxes of shallow-frames in this peculiar manner. I need hardly say that in future I shall stick to the 1½ in. end, as, if the others are not good enough for the bees, they are certainly not good enough for me. I think it possible that in a good season the bees would not have acted as they did, but last year they were at no time storing at such a pace as to be in want of room. It seems to me that the above is a distinct proof of the objection of the bees to thick combs, and of their preference for thin ones.—C. A. ATCHLEY, *Willsbridge, Bristol, January* 25.

SELLING HONEY.

[4229.] Referring once more to this much discussed question, it seems to me that some bee-keepers grumble at the low price of honey; others because they cannot sell at all; and a third section because they have none to sell. There is a fault somewhere! To my mind, it is ofttimes the bee-keeper's own. Some will say, "Well, let us take the low prices first in order to sell out and then try and find out where the fault lies." Our friend Mr. Woodley says, "Good honey is scarce this year." But a glance at your advertisement columns does not show any advance on last year's figures, when honey was more plentiful and appliances cheaper. Who, then, is to blame? Not the buyers. We may ask, do bee-keepers co-operate at all to maintain fair prices? I say, no; at least, they do not round here. About three miles from where I live is a small country town, around which are located about ten apiaries of varying size, the four largest bee-keepers owning some sixty or seventy stocks between them. Meeting one of these last summer, just as the first sections were ready for removal, I asked what price he intended to sell sections at. "Sixpence!" he replied, adding a remark, "Last year (1899) I asked 8d., and they did not sell very well, so this time I shall start at 6d." "But," said I, "you had no unsold sections in January, so they did not hang on hand very long. Suppose you try 8d. for a start and see how the season gets on." But no, he would and did keep to his "I shall start at 6d." Now sir, I would not grumble so much had it rested there, but I met another of the four a few days after, and he observed, "Here is **** selling his sections at 6d. I 'baint going to be done by him. I shall sell mine at 5d." And so that game went on between them till I actually saw three good sections sold for a shilling. I contend if these bee-keepers had met in a friendly way and agreed upon a fair price and kept to it, it would have been better for themselves and the bee-keeping community at large.

In speaking of bee-keepers whose complaint is that they "cannot sell at all," it means that the first order for honey is generally the last from the same customer, simply because they will not put their produce up properly. To cite a case:—Having sold out of extracted honey last year, I asked a neighbour bee-keeper to let me have a couple of pounds for a customer, which he did. It was handed to me in a 2-lb. jam-bottle, its mouth covered with brown paper with part of an address on, and tied round with a piece of untwisted bag-tie, the bottle all sticky with honey, and dirty-looking. Yet that honey was as good in quality as ever bees gathered from flowers. Then, as regards comb honey, I have seen it sent to customers in sections, soiled, and the propolis all left on, just as taken from the hive; the sections about three parts filled, and as many cells unsealed as sealed. I really think it would be better for the craft if these sort of bee-keepers could be relegated to the class who never have any honey to sell, because they not only do themselves harm, but the bee-keeping community also. As Mr. Woodley says in this week's JOURNAL, "Cleanliness and the exercise of carefulness in handling and glazing sections" is the way to "improve the present output and prove stepping-stones to success."—C. T. EDENS, *Chadlington, January* 26.

HOW TO UTILISE SWARMS.

WHERE INCREASE IS *not* DESIRED.

[4230.] I have read letter of E. Maxwell (4224, page 38) on my proposed plan of utilising swarms (4131, November 8, page 439) in which he mentions having "tried the plan proposed, but did not find it a success." Surely there is some mistake here, or your correspondent has failed to grasp my idea. I say this—because in recording his unsuccessful experience, he says, "*one* entrance and two excluders were used."

I never suggested having only "one entrance," as I require a temporary one in the shallow-frame box in which the swarms hived in addition to the original entrance. Thus the parent stock and its swarm each work from their respective entrances for about three weeks. In about that time old queen is removed from the swarm, its temporary entrance is closed, and the perforated (*not excluder*) zinc separator removed from between parent stock and swarm, thus allowing both lots to join up or unite; and the young queen, being in original body-box below, remains to head the united bees.

As your correspondent's experiment may have some points in common with mine, I shall be glad to hear more particulars of it.—D. P. H., *Cupar, Fife, January* 26.

(*Correspondence continued on page* 46.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The picture below represents a corner only of Mr. Scurrah's bee-garden and some half dozen hives. He kindly sent us a well-drawn pencil sketch of his full apiary of thirty hives all shown, hoping that we could in some way combine the sketch and photo. Unfortunately, however, a "tone-block" can only be true to nature as shown in the photo and so we must be content to let Mr. Scurrah's "text" explain the rest, when he writes us as follows :—

"In accordance with the promise I made you at the 'Royal' Show at York to send some account of our bee-garden, I enclose a photo. of a few of the hives, which are so widely distributed that it is impossible to show more than a tithe of them in a photo. With regard to my bee-keeping, I have had a long experience, my father starting on the old-fashioned plan not less than sixty years ago, and ever since that time we have kept the same strain of bees, without any attempt at introducing new blood. Of course, there is always the possibility of queens meeting with strange drones in their marital flight, and over this we have no control.

"I began with movable frame hives about eight years ago, and after borrowing a hive as a pattern to work by, I made two from it. Fortunately I had got hold of one made to ake the 'standard' frame, and have therefore had no occasion to make any alterations, while I quickly saw and appreciated the advantages secured by the movable frame-hive and a frame of uniform size for all bee-keepers' use.

"My son-in-law, H. F. Garnett, becoming an enthusiast over the bees, joined me, and we work about thirty stocks for both comb and extracted honey. Ours is a fairly good clover district, and being within carting distance of the heather, we are enabled to secure a double harvest.

"If it was not for less accommodation required in single wall hives, I should most certainly make no other pattern of hive except the 'W. B. C.,' but the extra width makes a serious difference in the space taken up by hives with outer-cases and stands when carting to the moors. We have also worked one hive on the "Wells" system with great success.

"I may add we have been much indebted to the B.B.J. and Mr. Cowan's 'Guide Book' for any success we may have achieved in what has always been a pleasing hobby.

"There is no doubt about bees paying their way, and leaving a handsome profit when kept on up-to-date lines combined with the exercise of intelligent business habits, both in preparing the produce for sale and in securing a market for it. I also think that where a man starts bee-keeping without possessing any business aptitude at all he might as well give up at the outset, for he will never become a bee-keeper of the right sort."

MR. WM. SCURRAH'S APIARY, WELL, BEDALE, YORKSHIRE.

CORRESPONDENCE.

(*Continued from page* 44.)

THE B.B.K.A. APIARY.

[4231.] On reading Mr. Weston's appeal to appliance dealers for a gift of hives to the apiary of the B.B.K.A. (4188, page 2) I thought it was a joke, but to my great surprise I find in this week's BEE JOURNAL an editorial to the same effect.

As there is no mention of such an appeal being issued at the last Council meeting, I take it that there is no official authority for it.

One can hardly imagine a worse advertisement for bee-keeping than for members of the Council of the B.B.K.A. to acknowledge that their apiary, in such a county as Kent, does not pay its way.—G. F. O'FLAHERTIE, *The Hermitage, Netteswell, January* 19.

[Owing, it may be, to some special obliquity of vision on our part, and after again reading Mr. Weston's letter on p. 2 we fail to see where the "joke" comes in. Anyway, if there be anything humorous in the appeal made therein, it is (as a Scotchman would say) "far ben." Regarding the editorial referred to, however, we are quite clear, and our correspondent may "take it" from us that no statement appears in the editorial column without official authority for its being made.

On the other hand—and writing, not editorially, but as a member of the Council—we must again plead dulness of vision in being unable to see any connection between the appeal made and an acknowledgment that B.B.K.A. apiary at "Swanley does not pay its way."—EDS.]

THE VISIT OF MR. SCHWAROFF.

[4232.] In visiting Eynsford Mr. Schwaroff was desirous to ascertain all he could concerning bee-keeping, poultry-keeping, and cider-making; and, as a Government director of the silk industry of the Caucasus, he was naturally interested in mulberry culture. Incidentally he explained the reason why mulberry trees in England almost invariably split at the fork of the trunk; there is a large example of this fault at the Priory. Mr. Schwaroff explained that it was a law of mulberry culture always to have three main branches—never only two—thus splitting is entirely obviated. Being asked why, if mulberries were stripped of foliage for silkworms, it was not better to grow bush trees, he replied that in Russia they had a saying, that "one must always get two skins off every ox" and mulberries denuded by cutting off about 3 ft. of the shoots to feed the silkworms are then suitable for vines to be trained up the trunks and branches. Enormous quinces are grown in the Caucasus of different shape to ours and single fruits weigh as much as 2½ lb. This favourite fruit is cooked like apples. Mr. Schwaroff greatly admires English poultry. After viewing Eynsford Castle he was driven to the cider works, in which he was much interested, and saw the whole process from pressing to completion of fermentation, expressing himself well satisfied with the quality of Kent cider, then proceeding to the Horticultural College he was captivated by the sight of so many lady students. He knew of no other such institution abroad. Then passing to the Swanley jam factory he was exceedingly interested in the whole process of making peel from citron, lemons, and oranges imported from the shores of the Mediterranean in casks filled with sea water. Pulping fruit was fully explained. Afterwards visiting Messrs. Cannell & Sons' nurseries he was struck by the grand display of zonal geraniums, cacti, and chrysanthemums. Mr. Schwaroff left Eynsford two days later for Montpelier, where there are Government horticultural schools. Our Russian visitor said Kent village scenery, and particularly at Eynsford, excelled anything of the same description in the Caucasus, where there are great altitudes, vast mountain ranges, and a variety of climates. Mr. Schwaroff has a small farm near the historic spot where, during the retreat of the ten thousand Greeks, Xenophon's soldiers were poisoned by eating honey. Azalea pontica still grows wild there, and flowers profusely. The honey gathered by the bees from this blossom is always poisonous. Mr. Schwaroff is a man of great intelligence, and likes England and the English, remarking that it was unfortunate that the people of Russia and of England knew so little of each other. Were they better acquainted, national antipathies would be dissipated.—E. D. T., *Eynsford, Jan.* 27.

PREVENTING SWARMING.

[4233.] In answer to our friends "W. C. N." (4205, p. 18), and "F. W. Roden" (4212, p. 27), who inquire regarding my method of preventing the issue of swarms, I may be allowed to say there is nothing new or novel in my plan. It certainly requires close watching and strict attention to what many would think minor matters, but to me they are very important. I do not disturb my bees more than is absolutely necessary after the first overhaul at end of March or first week in April, believing, as I do, that nothing causes bees to swarm more than rough handling and frequent disturbance of the brood nest. I watch their movements from the outside day by day, and if they are seen to be working well at honey gathering, I let them alone, but if any hive is observed to be not up to the mark it is carefully and quietly examined, and I try to put the bees right. Then as soon as the hives are getting full of bees on goes the supers without an hour's delay, and from that time begins the art of preventing swarming. A day too late

with supers or a bit of neglect in small details, and the bees begin to build queen-cells, and the mischief is done! I give a look in at the hive entrances every day, and if the bees are noticed beginning to cluster on bottom of the frames, the floorboard is let down or the hive raised an inch or so in order that a current of air can enter on all sides. I find that by so doing it cools the hive, and soon causes the bees to shift upwards. Then, if required, I give more super room, and by thus paying strict attention to bottom and top I manage to prevent swarming. The secret is in keeping the bees well at work, instead of letting them hang about. Bees, like human beings, differ in temperament according to locality and race, and each bee-keeper must study the ways of his own particular strain of bees. Bear in mind also that young queens are less likely to swarm than old ones. I seldom keep a queen bee over two years in my own apiary.

During the summer of 1900 all my stocks except two were headed by 1899 queens reared the previous year. I had no swarms, but one of the two older queens mentioned gave me a little trouble. She was a Ligurian in her third year.

My own stocks averaged about 30 lb. of surplus per colony; but in several apiaries under my care the hives sent out swarms. I only saw those apiaries once a week, and some of them once a fortnight, and this, of course, gave me no chance of preventing swarming, while it, of course, diminished the amount of surplus honey. In conclusion, let me say that, while ready and willing to afford any information in my power to help bee-keepers, I think our esteemed friends, Messrs. Brice, Woodley, Loveday, Rymer, and others, could write something of far more value than myself on preventing swarming. Wishing a prosperous year to the bee industry, and the best of health and happiness to our esteemed editors. —A. H. MILLER, *Egham, Surrey, January* 24.

THICKNESS OF HONEY-COMB.

[4234.] The Rev. R. M. Lamb (4217, page 35) asks if bee-keepers will give the results of their observations as to the thickness of honey-comb, and in doing so cites the case of a bee-nest built out in the open. Now, in the case of the swarm which I took from an oak-tree (4154, page 467 of last year's vol.), having the combs still by me, I measured them and found the brood-combs ⅞ in. thick and the honey-combs 1¼ in. thick. Mr. Lamb gives a plan of discovering the actual thickness of honey-comb the bees would build if left to do as they pleased. I had occasion in the spring of 1900 to put a hive in order for a neighbour, which had been given to him. On removing the roof—an operation that took me all my time—I found it filled with honey-comb, not the whole length of the roof, but in pieces about from 4 in. to 6 in. in length, 3 in. to 4 in. in depth, and 2 in. in thickness—solid slabs of granulated honey-comb. In the brood-chamber I found six standard frames instead of ten, and where the remaining four frames should have been the bees had built "three" combs right down to the floor board, and filled and sealed them, so that in this instance Mr. Lamb has got his surprise, and that in right earnest.—ARTHUR H. HOMERSHAM, *Sturry, near Canterbury, January* 28.

THE "WELLS" SYSTEM.

[4235.] Writing under the heading "Some Results from 'Wells' Hives *v.* Single Stocks" (4221, page 37), Mr. J. H. Horn says: "I must say, however, that three of the 'Wells' hives mentioned below and one of the single ones have not swarmed for the last three years." Will "J. H. H." tell us in the B. B. J. why they did not, or what he did to prevent swarming? He might also state the cause of the great difference between two of his "Wells" hives, viz., (c) and (h); the former (c) with only 95 lb., the latter (h) gives 186 lb., very near double.

The advantage of the "Wells" hive over the single one is shown very clearly. Sixteen stocks in eight "Wells" hives average 67½ lb. of honey each, while the five single ones average only 45½ lb. each. I am much interested in everything connected with the "Wells," having made and stocked one last season, my reason for troubling Mr. J. H. H.—W. C. H., *South Devon, January* 27.

BEE-KEEPERS

VERSUS PEOPLE WHO KEEP BEES.

[4236.] I remember reading in an old copy book the heading, "A hobby-horse is the best hack on which to ride through the journey of life." Now, it goes without saying that your readers will regard bee-keeping as A 1 among hobbies. But, in bee-keeping, as in every "hobby," the subject is viewed from various standpoints. With some it is a matter of money; with others it means only honey; and not a few regard it as combining in its requirements, time, patience, and money. The last-named item will do a great deal in promoting the enjoyment of most hobbies, but in bee-keeping it is of least importance, while in *keeping bees*—mark the difference—money is absolutely necessary; and people who "go in" for bees on the plan I have italicised will want a lot of it to start with, and then expect the bees to do the rest. On the other hand, a bee-keeper will be content to "get on" as his knowledge increases. We have to do things thoroughly in bee-keeping. Attending to the bees in due season; and taking time by the forelock in doing the work; never be in a hurry over it, or woe betide the workman; don't lie in

bed till the last minute, then rush up the garden and attempt to put on or take off a rack of sections before going to your daily labour, or it is almost a certainty that everything will go wrong and you will get your pay in stings! A few experiences of this kind, however, will make us inwardly vow to take more time; to "go slow" and have every part about our hives perfect in fit and interchangeable. The adage says, "Patience is a virtue, possess it if you can. It's seldom found in woman and never in a man." But a good bee-keeper needs patience, otherwise all else will amount to nil. Those who lack this virtue only *keep bees*. They have no love for the bees, and sooner or later will give up the pursuit in disgust. Such, then, is one class we include among those who are keepers of bees without being bee-keepers. There is also the individual who keeps bees from entirely mercenary motives; who removes every ounce of honey from the hives, gives the bees nothing in return, and usually comes to an end *minus* both stock and crop. I fully agree with one of your American correspondents, who said, "the man who did not spend a penny in bee-literature was almost always a failure." This type of individual is usually a bumptious "know-all," who on closer acquaintance is found to keep his bees in frame-hives, and work them all on the ancient principle of "happy-go-lucky." On inquiry as to his "takes" he generally has a stock or two that has a few filled frames or sections, the rest had to be "driven" in order to get any honey from them. I was rather amused one day at one of our village oracles who was supposed to be posted up on this subject. He had kept bees for forty years, but only began with frame hives five or six years ago. He had never read a paper or book on bee-keeping, and prided himself on the fact. He was completely at a loss in working on the modern plan, so his attempts at working for sections resulted in them being all joined together. "How," he asked, "did we manage to get our sections built all straight?" Asked if he used dividers, he did not know what they were; a true case of penny wise and pound foolish. Another who "keeps bees," is the man who has them as a neglected adjunct to something else. He keeps perhaps fifty skeps or wood hives, and gets about twenty stone of honey from the lot; tells you in an apologetic sort of way that he has not time to attend them; his hives are of every pattern and make known and unknown; if in skeps they are rotten, covered with sacks or not as the case may be; if in wooden hives the racks of sections are put on anyhow and at any time; then the season ended he wonders how it is So-and-So gets twice as much honey from half the number of bees. Still he keeps on in his "to-morrow will do" sort of way and always fails. Finally a word on the instructive person who keeps bees because he thinks a handsome hive or two will look well on his front lawn. He gives a good price for bees, has them housed in a costly hive, and then settles down with a full expectation of having plenty of honey for his table and friends. A bad season follows, feeding has to be resorted to, neglect follows and the bees starve off; the fancy hives finding a resting place in the gardener's outhouse, and rot there. These failures are so plainly brought about by neglect or ignorance that they become lessons, teaching us to look after our own. We watch and study the busy bee and so we become bee-keepers.

How pleasant it is to come across the man or woman who rightly can claim the title of bee-keeper, who tend the bees almost as part of themselves. They know the character of each different lot of bees and of every queen as they know those of their own children. Then we have the neatly set out rows of hives; clean, well painted, well packed, and snug in appearance, all tending to show the interest taken in them by their owner. What planning the bee-keeper has, what arranging of ideas for working this hive and for that! Then the pleasure it gives him of talking to a brother bee-keeper about their mutual hobby! His interest in the bees deepens always, and the further he goes the more interesting it becomes. And when, at the season's end, he finds not only his mind stored by studying the bees, but his pocket a bit heavier into the bargain, he comes to the conclusion that of all the interesting things in this world the bee stands on top, and far above all. — ROXBY, *Yorks, January* 21.

REVIEWS OF FOREIGN BEE PAPERS

BY R. HAMLYN-HARRIS, F.R.M.S., F.E.S., F.Z.S., ETC.

Le Rucher Belge (Belgium).—According to a French bee-keeper nightingales are very useful near an apiary. Having closely watched the movements of some in the vicinity of his hives he assured himself that these charming birds hunt *drones* exclusively.

To be sure of the truth of this observation he killed about a dozen drones and half-a-dozen worker bees, and placed these on the alighting board; he noticed some nightingales fly down and devour all the drones, without touching the workers. In admiring the wonderful instinct of the birds in taking only the stingless insects, the question is raised as to whether swallows and tits do not probably make the same distinction?

L'Apicoltore (Italy).—From Pistoia comes but a poor report of last season's honey harvest in Italy. Spring cold and strong winds, and, after six weeks' tolerable weather, a long drought, which not only prevented the rearing of young brood, but its effects will be felt in the early spring of 1901, as the farmers could not sow the rape crop—the most valuable bee pasture at that season—from about February 1 to March 20.

L'Apicoltore, Italy.—"L'Abeille Bougingnonne" reports a curious story to illustrate the dangers of some *tropical* honeys. A Diplomatic official returning home from Central Asia brought with him a sample of honey highly recommended for its delicious perfume and flavour, and had it served at a family party. All those who partook were soon after seized with delirium, dancing and gesticulating like lunatics! The family doctor, called in, in haste, after questioning the servants, concluded that the honey was the cause of the whole trouble, and thought it his duty to taste it himself. He was also attacked with a kind of delirium. After a while the sufferers sank into a profound sleep, after which they gradually recovered.

Leipziger Bienen-Zeitung (Germany) says that in order to demonstrate to the world the unity of the United States of America, American bee-keepers intend holding an enormous exhibition in Buffalo, State of New York.

Bienenwirtschaftliches Centralblatt (Germany).—"Bienenrater" refers to a most interesting subject. It has always been a matter of some importance to endeavour to find a remedy for the bite of snakes, but until now no one, as far as we can tell, has been successful, and it seems as if the poison of the bee really possessed some counteracting influence.

A well-known French chemist has recently experimented upon dogs which had been bitten by poisonous snakes. These dogs were injected with the honey-bee's poison with the result that after a slight attack of fever the animals seemed to have quite recovered.

Leipziger Bienenzeitung and Others.—Dr. Dzierzon is advocating feeding bees with fresh-boiled milk and sweetened with a quantity of sugar; he reports specially good results from his twin-hives—treated with the same!

Queries and Replies.

[2580.] *Making Flour-candy.*—I sometimes find in making flour-candy that it gradually returns to a semi-liquid state after setting. 1. Can you tell me why this is so? 2. I can never get the flour to mix properly with the candy. The flour forms itself into a lot of little balls. In order to get over this trouble I sometimes throw the flour into the pan off a a plate in one mass, and then keep stirring to make it blend, but I fail in my efforts. At other times I put it in slowly with my hand, but always with the same result. I attend fairly well to the instructions in the "Guide Book," except that I may stir in the flour before the candy begins to set properly. Please say where I err?—GLADDES *co. Carlow, January* 25.

REPLY.—1. If the instructions in "Guide Book" are carefully and closely adhered to, good candy will result. This has been fully proved. Your failure is apparently caused by only attending "fairly well to the instructions, except," &c. We have never before heard of candy going back to a semi-liquid state if properly boiled. 2. The flour should be lightly sprinkled in by hand — stirring the mixture rapidly after removal from the fire—when cooling it off and causing it to turn white and stiff. This is done by constant stirring until the candy sets.

[2581.] *A Beginner's Queries on Various Subjects.*—Yesterday (January 17) was the first really fine day we have had here for a very long time, and I had a look at my hives. A few from each of three stocks were flying around, but the fourth hive showed no sign of life. I rapped on the alighting-board, but only one bee came out, crawled round the door, and went in again. 1. Why do the bees behave in this way (for I have noticed it before)? I thought they were my best stock. 2. Two of my stocks are made up from driven bees, and within the last two or three weeks I gave them candy. The bees have not consumed the food yet. I suppose I may assume that they are all right? 3. Can, or will, a queen bee sting? and would not the bees violently resent having the queen lifted off the combs and taken away? 4. How are combs given to bees to be cleaned after extracting? I have had the BEE JOURNAL for a year, and also the "Guide Book," but have never seen this particular item of bee-work described, although often referred to. I will conclude by thanking you in advance; and, indeed, I do not know how any bee-keeper can get on without the BEE JOURNAL, especially those who, like myself, are new to the business.—SLIEVE DONARD, *Newcastle, co. Down, January* 18.

REPLY.—1. If a particular hive is observed to be inactive, while others have bees flying freely from the entrance on fine days, an examination should be made to ascertain the cause of difference. There is no known rule to account for it, and the most experienced bee-man simply looks inside when anything unusual is noticed about a hive. 2. So far from assuming that bees are "all right" because there is unconsumed candy above the frames, it is not at all uncommon for stocks to perish with food overhead. All depends upon the amount of syrup-food given when feeding up. If there are well-stored combs below it matters little about unconsumed candy. 3. The queen bee has a sting, but only uses it on a rival in the combat for supremacy. Bees become much agitated a short time after losing their queen, but do not "violently resent" her removal. 4. Wet combs, after extracting, should be given to the bees for cleaning up, at dusk, after bees have done flying for the day. If given earlier in the day, when bees are busy, it may cause

"robbing," and a general upset in the apiary, sometimes with disastrous results.

[2582.] *Using Frames of Honey as Bee-Food.*—1. Please tell me how to use some frames of sealed honey for feeding my bees. It is heather honey, and I have no extractor, nor do I wish to break up the combs, as they are new combs built last summer. 2. What is the best method of keeping a register of the age of queens? I have fourteen hives and cannot remember ages of queens. 3. Is a member of the county B.K.A. entitled to a visit from the "expert" once a year?—R. M. B., *Lyndhurst, Hants, January* 28.

REPLY.—1. Uncap the food or bruise the cappings (by scratching off part of the surface) before inserting a comb, and place it next to the hive side, removing a frame to make room. Give one comb of food at a time, and at intervals of a week or so, or when the honey has been taken from the added comb. 2. For 2d. in stamps we will send a copy of our monthly, the *Record*, in which appears a "Register" such as you need. 3. Yes.

Echoes from the Hives.

Chaddington, Oxon, January 24.—To-day, being bright and warm, and bees flying freely, I took the opportunity of having a peep within the hives to see how things were as regards food. I found that more stores had been consumed than is usual at this season, owing to the open weather, which allowed too many opportunities for free flights. Several beekeepers around here have lost stocks already, owing to starvation, which no doubt a cake of soft candy would have saved. I saw the first dandelions in bloom to-day, but snowdrops and anemones have been out for some days now, while the modest little daisy and the laurestinus have bloomed more or less all winter, and the latter is now a mass of bloom. The rooks are starting building, thus heralding spring, when all bee-keepers will hope to be busy among the bees once more, and I trust set out on a prosperous year.—C. T. EDENS.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

S. C. (Selkirk).—*Honey Adulteration.*—In view of the special character of our correspondent's communication, and the controversy that may arise from its publication, we will be glad if "S. C." will kindly conform to the printed rule at head of correspondence column by sending his real name and address—not necessarily for publication—before his letter appears in print.

G. WHITE (Hillingdon).—*Removing Surplus in January.*—With regard to the skeps used as surplus chambers above top-bars of frame-hives, we should be very chary of removing it all without first making quite sure of there being plenty of food below. In fact, unless you value the honey more than the bees, the best course will be to defer any removal of surplus until the bees are safely through the risks of wintering, or, say, till April, and only if the queen is found breeding in the frames below, and food enough in them to last till honey can be had outside.

THOS. ANDREWS (Salisbury).—*Ancient Bee-Books.*—We are much obliged by the short extract from your encyclopædia, but you will notice that the ground is about covered by Mr. Headley's "Fugitive Papers."

P. B. GOVETT (Cornwall).—*Portraits of Bee-keepers.*—Except the certain amount of interest attaching to those who have acquired some special prominence in the craft there seems to be no reason just now for publishing "portraits" as suggested, seeing that only a few years ago we had in our pages a series of portraits accompanied by short sketches of the bee-keepers represented.

W. MARTIN (High Wycombe).—*Bee-Show at the Crystal Palace in* 1874.—Much obliged for your reminiscences of the above-named show and also for your poetical description of the "event," although the latter is hardly suitable for publication. We also well remember yourself as a winner of several prizes on the now historical occasion.

REN RECORD (Handsworth, Birmingham).—*Hive-making and Bee-management.*—There are several works which contain instructions in both branches of apiculture you name, but since you ask our view as to choice, we advise the "Guide Book."

HENRY FOSTER (Hockley Heath).—*Naphthol Beta for use in Bee-Food.*—We cannot be responsible for anything supplied either by your local chemist or by appliance-dealers sold under this name. That sent out from this office is specially prepared for us under Mr. Cowan's direction, and is of the guaranteed purity and strength necessary for use in solution as advised by Dr. Lortet.

C. J. ELSE (Derby).—*Clarifying Honey.*—1. The process of "clarifying honey for the show-bench" to which you refer, is simply to slightly heat the honey—if it happens to show signs of cloudiness or incipient granulation—by immersing the jars in warm water until the cloudiness disappears and the honey resumes its original brightness. 2. The coloured glass for grading honey can only be had from Mr. E. A. Young, Sec. B.B.K.A., 12, Hanover-square, London.

We have a number of letters and some queries on hand, but as they are not urgent, and our space is fully occupied, we reserve them till next week.

Editorial, Notices, &c.

DEVON BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The third annual meeting of the Devon B.K.A. was held at the Guildhall, Exeter, on the 26th ult. The chair was taken by Col. Walker, President, and amongst those present were Miss S. Hole, Messrs. Burgess, Catford, Mark Farrant (Hon. Treasurer), A. Godsland, F. P. Smith, Townsend, Barton, Blackmore, Webber, and E. Scholefield (Hon. Secretary).

The Hon. Treasurer presented and briefly explained the accounts, expressing his opinion that although they showed a small deficit, due principally to the forward policy which the Council had thought it right to adopt in the matter of the bee-van, the financial position of the Association was decidedly satisfactory.

The Chairman moved the adoption of the report and accounts. The former showed that the most important work of the year had been the six weeks' tour of the bee-van under a special expert, at a cost of £8 8s. 1d, towards which the County Council had granted £75, the remainder being defrayed by the Association. The tour had been quite successful; thirty-six places had been visited. The bee-tent provided in the previous year by the County Council had been of great educational value. Courses of lectures had also been given in different parts of the county under the Technical Education Committee.

The Council expressed their regret at losing the services of Mr. Jacomb-Hood, but they heartily congratulated him on his well-deserved promotion, and could not forget how, at the first start of the Association, he had contributed no little to its success by undertaking the whole expert work for the first year. They were glad to think that the loss of Mr. Tolson, late hon. sec., was to be only temporary.

The Chairman remarked that although the number of members, 245, was slightly under that of last year, new members continued to be enrolled. The fact of a few having resigned was of little importance. Some joined for the sake of novelty, others with the idea that the Association would take the trouble of disposing of their honey off their hands. It was never intended or in any way pretended that the Devon B.K.A. should enter into commercial competition. It was obvious that such an undertaking would be entirely beyond its powers. What could be done in that direction would be done as heretofore, while it was hoped that with the assistance of the County Council the general work of the Association would continue to extend.

The report and accounts were unanimously adopted. The Right Hon. Lord Seaton was elected President. The Hon. Sec. and Hon. Treasurer were re-elected, as were also the Council, with two additions.

The question of approaching the County Council for a grant in aid of technical education was then discussed at length, and it was agreed to ask for the same sum as had been granted last year towards the bee-van tour, but that it should be applied this year to working in connection with horticultural and other societies throughout the county and to payment of experts. It was also decided that no exhibitor at the Association's honey shows should be allowed to make more than one entry in any one class.

A cordial vote of thanks to the chairman for presiding that day and for having acted as President to the D.B.K.A. during the past three years was carried unanimously.

Colonel Walker, in returning thanks, explained that though no longer President he would continue to work in the interests of the Association.

A vote of thanks to the Mayor of Exeter for the use of the Guildhall, and also to the hon. auditor, closed the proceedings.

DERBYSHIRE B.K.A.

ANNUAL MEETING.

The twentieth annual meeting of this association was held on Saturday, January 26, at the Town Hall, Derby (by permission of the Mayor), Alderman J. L. P. Barber, J.P., in the chair. The minutes of the last general meeting having been read and confirmed, and the usual vote of thanks moved and carried, the officers for the coming year were elected. His Grace the Duke of Devonshire, K.G., was elected president; Alderman J. L. P. Barber, J.P., chairman; Mr. R. Giles, vice-chairman; Dr. W. G. Copestake, treasurer, and Mr. F. Walker, hon. secretary. Votes of thanks were accorded the Derbyshire Agricultural Society, for their kindness in again assisting the Association by renewing their grant of £10 in aid of the prize schedule, and to the Derbyshire County Council for their grant of £50. Seven lectures had been given during the season under the auspices of the Association, and they were well attended and appreciated. The experts report that foul brood is still prevalent in the county, the disease having appeared in several apiaries hitherto free from it. The experts have visited during the spring of last year nearly 400 bee-keepers, with a total of about 1,500 stocks. The number of members at present is 247, showing an increase of 56 on the preceding year. The report and balance-sheet being adopted, the meeting closed with the usual vote of thanks.—(*Communicated.*)

CUMBERLAND B.K.A.

A meeting of the above was held at the Pennington Arms, Ravenglass, on Saturday evening, January 12, when a good many of the officers and committee put in an appearance. The reports as to membership are, we

hear, very satisfactory. Bee-keepers from all parts of the county are joining or have joined. Mr. Vicars Boot, the Secretary, appears to be working very hard to make the new association a success.—(*Communicated.*)

REVIEWS OF FOREIGN BEE PAPERS

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Deutsche Illustrierte Bienenzeitung (Germany).— *Rhcilfestschrift* says that Frederick the Great was an energetic promoter of bee-keeping. He decreed that the clergy, religious institutions, and cloisters, as well as those persons renting land belonging to the Crown should keep a certain fixed number of hives. Every lessee who paid a rent of less than 150 Reichsthaler (1 Reichsthaler=3s.*) had to keep ten, and the others at least twenty stocks, and that for each missing hive a fine of 5 Reichsthaler was imposed.

In districts where the bees could find sufficient food each peasant had to stock one or two lots of bees, according to his wealth and position. Should this not be complied with a fine of 16 groschen (1 groschen=1¼d.*) was imposed for every hive under the prescribed limit, whilst those whose apiaries consisted of over ten colonies received a prize of 16 groschen.

In the case of robbery of bees, punishments according to the amount of loss was inflicted, consisting of one to three years' imprisonment; those exposing any honey mixed with poison in the open, in order to kill bees, received six years' imprisonment, because, not only was the Royal decree ignored, but because the honey might prove dangerous to man.

The results of this law were such that Frederick the Great wrote to Voltaire :—

"Apiculture has during this year increased by one-third."

Praktisher Wegweiser fur Bienenzüchter (Germany). — According to the *Schleswig Holstein Bienenzeitung*, the number of apiarists in the United States of America amount to 300,000 persons, whilst the yearly income derived from bees amounts on an average to 80,000,000 marks (20 marks=£1).

Deutche Bienenzucht (Germany). — *Praktisher Wegweiser fur Bienenzüchter* :—Honey ointment for sores. Honey and flour mixed to the extent of half the quantity of honey with water is stirred into a stiff mass. Linseed oil and yolk of egg to be added in order to give the same a tenacious tendency.

Praktisher Wegweiser Würzburg says :—Compresses made of honey and acetic acid, and applied in the case of burns have had good results.

* In taking the value of money into consideration, the period of which we speak must be borne in mind.—R. H.-H.

Deutcher Imker aus Böhmen.—Honey from Mount Hymettus is sold in Greece for 2-2½ guloen (gulden = a florin) per kilogramme (kilogramme=about 2 lb.). All other kinds of honey fetch only 50-70 kreuzer. The demand of honey cannot be met, although the output of the same reaches a value of half a million gulden.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted will oblige by mentioning the number of the letter as well as the page on which it appears.*

SIZE OF SECTIONS.

(*Continued from page* 42.)

[4237.] In the previous article, after noticing how Mr. Cowan supported my view as to the natural thickness of honey-comb, I ought also to have given the following quotation from the A. I. Root Company's catalogue for 1900 (page 6) :—"A tall section holding approximately a pound weight permits of the use of a thinner comb—a comb more nearly approaching combs in nature. Thin combs are said to be filled sooner and are far better filled, and it is also thought that honey ripens better in them." I can hardly think these statements would have been inserted if they had not the support of some successful bee-keepers. This catalogue, I may say, came into my hands only at the beginning of this winter, and in it I have found several ways in which my experience has been strikingly similar to those of many of our brethren over the water.

The next aspect we have to consider is, "How our present sections affect the heather harvest?"

I would reply in one word—*disastrously!* All that has been said against them with reference to the clover harvest applies with greater force with regard to the heather.

So that if bee-keepers generally cannot agree to adopt, shall we say, the "New Century Section," I would recommend all who go to the heather to unite together and procure one and name it—the "Moor Section."

If heather honey in virgin comb is superior to that pressed out—as it undoubtedly is—if there is good demand for such; if, owing to shortness of most seasons, the present sections are disappointing; then a narrower comb, one which the bees can build, fill, and seal quickly, seems to be absolutely necessary. Would that we could take a census of the

opinions of all our bee-keepers, but I feel that the desire for a change is steadily gaining ground.

Let a few examples, however, suffice for the present. On reading the report of Mr. Horn, Bedale (4217, page 34), and observing that his excellent harvest consisted only of extracted and pressed honey, I wrote asking if he had lately supered with sections, and if so, what proportion were marketable? He replied, "Yes; but only about a quarter were saleable—the demand was greater than supply. My hives always return from the moors with shallow-frames sealed throughout."

The Rev. Sidney Smith (Wheldrake) took his bees to the moors for the first time last August. They were in time to take advantage of the few fine days early in the season, and a good many sections were filled, but he had patiently to wait week after week for their sealing. I, of course, drew his attention to the necessity there was in his case of a narrower section.

Mr. Rymer two or three years ago supered with both sections and shallow-frames; he met with fair success with the latter, whereas the sections were a miserable failure. Yet there was a demand for honey-comb. How did he meet it? By simply offering his frames. Is there not room, then, for some reform?

To secure a fair harvest plenty of worked-out comb is another important factor. As towards the end of the season bees are disinclined to build comb, the less work of this kind we give them the better results we may expect. At present we extract many sections and then take them to the heather. But what should we do if most of those we put on for clover were completed? Whence should we obtain worked-out sections? Well, let us see. Supposing with narrower sections the tables were turned, and instead of the majority the minority only were incomplete, then, I suppose, many would do what I, for one, should be glad to do—purchase worked-out sections from those who happened to have some. I can only express my sincere conviction that when once bee-keepers who frequent the heather felt confident of meeting with fair success by means of a worked-out narrower section, there would be a brisk demand for them.

I might go further, and say that when once the heather honey harvest was thus placed on a sounder basis, it would be practicable for enterprising bee-keepers to hire their neighbours' stocks for a couple of months and take them for a second harvest.

May I now throw out a few suggestions which those who think with me might value. There appear to be three courses open to us:—

(1) If a goodly number were willing to join the enterprise we might order from 50,000 to 100,000 special sections of such a size that three would fit the shallow-frame. They would measure about 5 in. by $4\frac{3}{8}$ in. by $1\frac{5}{8}$ in. (or plain, $1\frac{3}{8}$ in.); or

(2) We could make a compromise with the present section by one measuring 5 in. by $4\frac{1}{4}$ in. by $1\frac{5}{8}$ in., which would fit the present section racks if they were raised $\frac{3}{4}$ in.; or

(3) We could try the American (Root's), 5 in. by 4 in. by $1\frac{5}{8}$ in., by packing them in our frames.

Besides the replies in the JOURNAL, to which I hope to allude briefly next week, I have received kind letters from friends with some ingenious ideas. I thank them all, and shall be pleased to receive suggestions, if only on a post-card, from others who are trying to bridge over the chasm between our section and the shallow-frame. I promise to give them full credit for anything new, and would only remind them that we are more likely to be successful the more we follow the motto, "simple and effective."—RICHD. M. LAMB, *Burton Pidsea, Yorks, February 2.*

"NO PAINS, NO GAINS."

CLARIFIED HONEY FOR THE SHOW-BENCH.

[4238.] The above "moral" is the obvious one to draw from Mr. Woodley's remarks (page 33, January 24) on "clarifying honey." If a little judicious manipulation will make our produce more pleasing to the eye (of customers as well as "judges") without rendering it less pleasing to the palate, by all means let us adopt it. On the two occasions when I have shown honey locally I have clarified my exhibit, and taken a "first" prize; not that I think the latter was wholly, or mainly, because of the former; but from the remarks I heard again and again from the visitors to the show I learned that its bright and transparent appearance was emphatically an attraction to them, and resulted in "business" in not a few instances.

I do not believe that judges would give first place to an inferior clarified sample while rejecting a superior unclarified lot; but if two equal samples were staged, inasmuch as the clarified one would have the advantage in point of appearance and saleability, it would, in my opinion, rightly be preferred. If we are to stickle so persistently for a state of "nature" in regard to extracted, why not also for comb honey? Why not reject the glazing, and especially the lace-edging, and show the section just in the condition in which we take it from the bees? The adornment of the case does not improve the contents; but one friend would say (and rightly so), "it improves the appearance and adds to the value 'commercially,' and therefore the pains taken are not thrown away," and this is my contention in regard to extracted when carefully clarified.

Size of Sections.—Bees do nothing invariably. This is the conclusion I draw from the information given by various correspondents as to the width of combs built by bees under varying conditions, some natural, others artificial. Combs from $\frac{7}{8}$ in. to 3 in. or more are

mentioned, but I fancy the average, in nature, would not exceed, if it reached, 1¼ in. With shallow-frames and plenty of bees, my experience is that eight frames with "wide" ends, when fully sealed, will contain more honey than ten frames with "narrow" ends. But in the case of section-boxes I think the nearer we keep to Nature the better. Our object here is not so much to get weight of honey as to get a perfectly drawn out and sealed section. And this there seems a more reasonable prospect of doing where a larger number of sections can be placed over the hive, as would be the case, if the size were reduced. I am, comparatively, only a beginner, and I make the following suggestion with all diffidence, viz.: that the width be reduced ¼ in., and the area be made 4¼ in. by 4⅞ in. This size would enable us to use the present rack by nailing a ½ in. strip all round the top, and we should get in 24 sections in place of 21. The cubic space would be only about 1 in. less than at present, and if the section were well filled, the weight would be full 16 oz, perhaps more. At any rate I feel, with Mr. Lamb, that a different size to the present at least deserves a trial, and I hope some practical suggestions as to what the size is to be made by those with larger experience than myself. Where expense is a consideration (and it ought always to be so to a practical man), to have a size that would go into our present racks, with the slight addition mentioned above, would be a decided advantage. I trust something tangible may result from this discussion.—W. H., *Brilley Vicarage, Whitney, Hereford.*

THE "B.B.K.A." APIARY.

[4239.] In your issue of January 31 is a short note (on page 46) referring to the B.B.K.A. apiary, which at first I thought of passing unnoticed; but, containing, as it does, in its few lines so much misleading matter, I think it better to write somewhat in answer. I may take it for granted that your correspondent is not an appliance-dealer, or he would have had sufficient business acumen to perceive that the letter was not written in "joke," but in deadly earnest; and I may here take the opportunity of publicly thanking those gentlemen who have kindly come forward to help us towards that which we require. Next, as to your correspondent's unwarranted assumption that, because there was no mention of the matter in the Report of the December meeting of the Council, I therefore had no authority to write to the B.J., I must inform him that it is not the practice for any society to publish details of the conversations and arrangements that are made at meetings to further its interests, and ours is no exception to the rule. The last paragraph of Mr. O'Flahertie's letter assumes that "the B.B.K.A. apiary does not pay its way." In my letter (4188, page 2) there is no hint of anything of the kind; the stocks there have furnished us with the article we need, viz., bees, wherewith to illustrate the expert's lectures in the bee-tent, and for examination and lecture purposes at Swanley. To properly house them in hives fit to exhibit to visitors was the aim of my appeal, and I am glad to say it will succeed. Using the hives thus precludes making such a return in honey or cash as your correspondent seems to consider we should have. But the apiary is not run on business lines only as a profit-making concern; it is an adjunct of the educational work which I hope the B.B.K.A. will always keep in the fore-front of their labours. With many thanks to our editors for their kind assistance.—T. I. WESTON, *Wickham-Bishops, Essex.*

"WELLS" HIVES *v.* SINGLE STOCKS.

[4240.] In reply to "W. C. H.," South Devon (4235, page 47), *re* my working of "Wells" hives, I would first recommend your correspondent to procure Mr. Wells's pamphlet and study every detail. It should be understood that I make no claim to having "improved" on the "Wells" hive. Some bee-keepers, no doubt, adopt different entrances, and others make dummies unlike the original one, described by Mr. Wells carefully and accurately. But why try so-called improvement, which in nearly every case brings about a failure? If a bee-keeper wishes to try experiments, let him try it at his own expense, but not at that of Mr. Wells. The above advice I also give to all who make a start with the "Wells" hive; because if the "starter" thoroughly masters the system he will succeed, but neglect in details causes the "Wells" hive to become a nuisance instead of a pleasure combined with profit.

In my own practice, let me say, all my brood-frames are filled with full sheets of "Weed" light brood-foundation, each bottom corner only being cut away to allow for a few drone-cells. Each of my "Wells" hives holds ten frames on one side of the perforated dummy, and nine on the other, besides two solid dummies. The hive measures 30⅜ in. inside measure, and being double-walled, the entrance extends right across the front, with slides and movable wood-block for use when required. The surplus-chambers are loose inside, two covering the full length of brood-frames, and I also consider it not safe to have less than six of these for each "Wells" hive, but four will suffice in most seasons. Cover to go over all is made of 11 in. wide ½-in. pine.

In working shallow-frames I use extra wide metal ends and full sheets of drone-foundation ("Weed"). Tops of frames are covered with extra-strong American leather-cloth, with two chaff-packed bottomless boxes 2½ in. deep to be covered with canvas. These are much easier removed than quilts and do not blow about if windy. If weather is warm I remove these outside until it becomes cooler.

I never allow the bees to be cramped for room in advance, and this is my sole aid in preventing swarming. Referring to the difference in the "take" from (c) and (h) as mentioned on page 37, if he will look up my report in B.J. of April 12 last year, and call (c) No. 5 and (h) No. 13 in comparing the two reports, he will find the explanation.

I have received letters through the post asking me why I keep single stocks when the "Wells" hive gives me so much better results? My reason is I have two crops to consider, the clover and heather; and in carting the bees to the moors I like the single stocks for packing between the six "Wells" hives, which complete my load and leave nice room for ventilation; but I could not pack nine "Wells" hives on the same space and keep the hives all within the sides of my cart. Bee-keepers that go to the moors on rough roads will understand this.

Mr. Wm. Loveday, on page 42, objects to the "Wells" hive as being inconvenient. I think he cannot have had much experience or else the construction of his "Wells" hives is faulty.

Among the advantages I claim for "Wells" hives for taking to the moors are:—(1) A double hive for same "standing room" (one shilling) as a single one; (2) saving room in the cart and time in handling two stocks at one lift; (3) the gain in returns compared with single stocks, even when counting one "Wells" hive as two stocks, my own average when reckoned in this way being 67½ lb. from each division of the "Wells," against 37½ lb. from single, hives. The gain in "take" from the "Wells" hive properly managed, as given and explained by "W. H. C.," just suits the bee-keeper's purpose.—J. H. Horn, *Bedale, Yorks, February* 4.

SIZE OF SECTIONS.

[4241.] To every bee-man whose aim is to raise comb-honey to the highest possible standard of perfection the above subject has considerable interest. I understand from the writings of your able correspondent, the Rev. R. M. Lamb, that he is in favour of a narrower section than the present 2 in. wide one, and quotes the shallow-frame with its 1½ in. and 1⅞ in. centres as being nearer perfection. Those who have handled shallow-frames, Stewarton boxes, and such like receptacles are aware that a larger quantity of honey can be gathered in a given time compared with the use of the present section-rack; but in the matter of selling or marketing the crop, I for one regret to say that the shallow-frame is "not in it" when working for comb-honey.

The Rev. Mr. Lamb, in his contentions, seems to have overlooked the fact that sections are worked between dividers and frames are not. The latter, on that account, are no guide whatever in arriving at the best size or width of sections. If he spaces the shallow-frame at 1⅞ in. centres, the thickness of the comb produced, without going into decimals, will be 1⅜ in. The 2 in. section with divider will give comb. 1½ in. thick. To raise comb-honey with a thickness of less than 1⅜ in. to 1½ in. would, I think, be a retrograde step. Bee-keepers are agreed that sections, to be perfect, must have dividers, although nature does not provide them.

For years bee-keepers in Scotland have used the 4¼ in., 1 lb. section, 1⅛ in. instead of the usual 2 in. size. This width is given to the makers when the order is placed, and only when the stock runs down is the full 2 in. size resorted to. For obvious reasons this narrower make is preferable. For several years 1½ in. and 1⅜ in. sections were extensively on trial and were found wanting, and none can vouch for this statement so well as appliance-dealers, who were glad to clear out these sizes at 50 per cent. loss. Perfection in comb-honey cannot, I think, be accomplished with a narrower section than from 1⅝ in. to 2 in. centres, and if we are going to raise the standard of excellence so much desired by every one, other means must be employed.—Wm. McNally, *Glenluce, N.B., February* 1.

DOUBLE-QUEENED HIVES.

THE "WELLS" SYSTEM.

[4242.] Like your correspondent, "W. C. H.," South Devon (4235, page 47), I am very interested in everything in connection with the "Wells" hive, but my own experience is decidedly adverse to the "double-queen" system. I have found, after some years' trial, that however strong both stocks may be in the height of the season, one compartment invariably loses its queen, and the bees perish before the advent of the next. Then the quantity of surplus honey from a "Wells" hive has never in my experience equalled that from two strong single stocks. Even from an early vigorous swarm in a single hive. I have, by using whole sheets of foundation, taken in the same season over a hundredweight of honey, a weight of surplus I have never yet been able to take from a "Wells," however strong. But the chief objection I find to the "Wells" system is the difficulty in manipulating one stock without disturbing the other, seeing that the work is best done at noon on a bright, sunny day, when many bees are out; and if, say, the work to be done is extracting from the brood-combs, which often become so clogged with honey that the queen has no cells to lay her eggs in, with consequent deterioration of the stock, such work is necessarily prolonged. Although one may subjugate the bees in both compartments, the irritation caused to the manipulator by the return of flying bees from both stocks is too great to endure stoically, and generally results with me in a postponement of the operation

sine die, which is, of course, bad bee-keeping, as everything to be done in connection with bees must be accomplished at the proper time, and any delay or procrastination is fatal. So with regret I have been compelled to abandon the "Wells" system and adopt only the single hive in my apiary, nor do I personally consider the extra harvest said to be derived from the system to be commensurate with the additional trouble and vexations involved. I enclose my card.—MULTA GEMENS, *Essex.*

LECTURES ON BEE-KEEPING

FOR DWELLERS IN THE COUNTRY.

[4243.] Among the many interesting letters in the BEE JOURNAL of January 24, I was greatly pleased to see the one on "Lectures on Bee-keeping" (4223, page 38). This is a subject which, to my mind, is of the utmost importance, and, along with Mr. W. H. Harris, I sincerely hope that something will be done in the direction he points out. As a dweller in the country, I know from experience how much pleasure and instruction is conveyed in a lecture on any such subject; and with a lantern and a set of slides on bee-keeping, not only would knowledge be gained, but a greater and more lasting interest would be aroused than in any other way I know of. In fact, all the surroundings of life in country places at this season, with our evenings unoccupied and no outdoor recreations to take up our attention, with the younger people hardly knowing how to spend the time, their minds would more readily grasp and retain the instruction offered because of there being nothing else to distract their attention. In most villages the announcement of a lantern lecture is hailed with enthusiasm weeks before the event comes off, and is talked of for months after. To an audience composed mainly of cottagers, farmers, and gardeners, a lecture on any subject in connection with natural history is not only appreciated but is fully understood; for to many of us Nature is our greatest teacher, but her works are ever before our eyes. A typewritten lecture, or copious and instructive notes on the different slides, would, in the hands of a bee-keeper, prove not only interesting and instructive, but would be a real boon during the dark winter nights. I sincerely hope that the Council of the B.B.K.A. will take the matter up earnestly. We have lantern lectures on horticulture and agriculture in every phase, from slipping cuttings to full blooming plants; then why not in bee-keeping?—G. A. BARNES, *Thornton Dale, Yorkshire, January* 29.

OBSERVATORY HIVES.

HUBER'S "LEAF-HIVE."

[4244.] In your issue of January 17 (page 27), Mr. Headley mentions that Huber invented the "leaf-hive," can you give me an idea what the "leaf-hive" is like? I have a hive, the "W.B.C." style of make, with plate-glass windows on three sides, through which I have again and again seen the queen when on the outer frames. This, of course, is only occasionally, and I should like to be able to look at her any time, if this is possible to be done without taking out the frames and searching in the ordinary way for her. Can you assist me in this matter?—S. HEAD, *Ivybridge, Devon.*

[The "leaf-hive" of Huber was the first step towards the movable-comb hive and was practically a hive in sections hinged or clamped together but capable of being parted and examined singly. It was of course entirely superseded by the present hanging-frame hive invented by Langstroth. There have been observatory hives made in which the particular frame on which the queen happens to be at the time can be examined without removal from the hive, but such hives will never come into general use. Moreover, when they need examining or fixing up for use, it requires more skill than the inspecting of combs in an ordinary frame-hive.—EDS.]

PREVENTING SWARMING.

[4245.] I notice several inquiries as to how swarming is prevented. I may say I have worked my stocks up from a stray swarm of six years ago to thirty-eight stocks at present, and have never had a natural swarm the whole time, though I have Carniolan hybrids. The following I consider indispensable conditions:—(1) room in body-box for twelve to fourteen frames; (2) porous quilts, and plenty of ventilation; (3) inner brood-box and outer-case, same as the "Cowan" hive illustrated in the "Guide Book"; (4) boarded, felt-lined and metal covered roof. Then, as the season advances and brood increases, add in centre frames with full sheets of workor foundation till you have at least twelve frames full of brood.

Now examine every frame, and all that contain an undue proportion of pollen place on the outsides (for removal later on or other consideration). Next place a box of four shallow-frames, either fitted with full sheets or built-out combs, with dummies on each side; that is, a kind of hanging box over-head, spaced the same as frames below, but leaving a bee-space above the brood-frames.

I generally find my bees take to the small space given at once, and in a few days they will have nearly filled these four frames. And I then decide whether to take out the "dummies" and add more frames, or tier up with a rack of sections, and when these are being sealed over add another rack or box of shallow frames.

I can only say that the foregoing plan succeeds with me. There is no necessity for watching the bees, but, of course, they must

be examined from time to time, and when it becomes necessary to add frames to brood-nest it is best to alternate them, of course doing it very gently and slowly.

I was surprised to read in B.B.J. that so many bee-keepers are unable to control swarming. It seems a simple matter.

I must, however, say that many of the so-called "non-swarming hives" seem to be a snare and a delusion. The "Cowan" hive—as already mentioned, which gives plenty of room for a box-feeder, and top packing to keep an equable temperature, and the elimination of pollen-clogged combs, and the gradual addition of more room as needed—contains all the main points of non-swarming.—A. H., *Woburn Sands.*

HONEY ADULTERATION.

[4246.] I have read with much interest the communications of A. G. Leigh (4198, page 14) and of G. S. N. (4211, page 26) *re* honey adulteration, and the vitiated taste which prefers the adulterated to the genuine article. But, while condemning the foreigner for palming off his rubbish in the name of honey, it behoves us to see that our own hands are clean in this matter, and I am sorry to say that, to a certain extent at least, this is not the case, as within recent years there has crept in amongst the baser class of bee-keepers the reprehensible practice of feeding with syrup while a honey-flow is on and the bees are storing in supers.

The *modus operandi* as generally followed is at such times to liberally supply the bees with syrup during the night, which, of course, is mixed up with the pure honey gathered from the fields during the daytime. The result of this mixing up of syrup and honey is a compound wanting both the flavour and consistency of genuine honey, but when sold in the comb—as it generally is—it is very difficult to detect, and yet it is a practice which, if not put a stop to, is fraught with danger to the craft.

Several objections to this method of increasing surplus will suggest themselves; I mention the following:—1. It gives the bee-keeper who adopts it an increased output to which he is not entitled, either by the strength of his hive or his superior management of it. 2. It is dishonest to the purchaser, who receives an adulterated instead of a pure article. 3. By lowering both the flavour and keeping properties of the article it creates a prejudice against honey as a whole. 4. By abnormally increasing the surplus it reduces the market price all round. I trust this question will be taken up by bee-keepers throughout the country, and every available means taken for putting a stop to so unprincipled and reprehensible a practice—a practice which, looked at either from the point of view of the purchaser or of the honest bee-man, is so manifestly unfair to both.—S. C., *Selkirk, January* 23, 1901.

[We confess surprise at learning that the fraudulent plan of feeding bees with sugar-syrup that existed a few years ago still prevails in Scotland. We hope our correspondent does not write from recent experience, and so far as regards the practice of feeding bees in this way in order to get sections filled, we do not believe any such practice prevails in England, if for no other reason than that it would not pay at the present prices.—EDS.]

ENTOMOLOGY AND BEE-KEEPING.

[4247.] Apart from the singular character of the "internal evidence" referred to in the accompanying report, from the *Times*, of the Entomological Society's recent annual meeting, the proceedings of so old and important a society always have an interest to bee-keepers generally, and particularly to those who make hymenopterous honey-producers their special study or hobby. It is a pity we cannot ascertain who among the numerous members of the Entomological Society devote themselves specially to the study of the hymenoptera, or of that branch of the order which we as bee-keepers regard with special interest. There are not so very many bee-keepers who make the higher subject of their hobby a special object, and the question is whether we cannot induce some of the notable or perhaps the less notable of "Entomolos" to become bee-keepers and honey producers, and thus impart a little new blood, in the best sense of the term, into the rank and file of bee-keeping. Would the "Entomolos" think it beneath their dignity? What does our excellent entomologist, Mr. Sladen, say to this? Does he, do you think, believe it possible to interest the members of the Entomological Society in the direction indicated?—E. D. T., *Eynsford, Kent.*

[The special item in the report referred to occurs in the address of the President, Mr. George H. Verrall, in which he dealt chiefly with the abuses and errors which have crept into entomological nomenclature, and the reckless manner in which types of various genera are described from single specimens, without careful study of the many forms which a single insect may assume, even in a limited locality. He especially deprecated the publication of supposed new species or varieties before their identity had been certainly established, where the object of the author was to claim something more than a contribution to material for determination. In reply to those who have questioned the value of entomology as a science, he mentioned several amusing instances of what an experienced entomologist might do in the way of turning his knowledge to practical account. Commentators on the work of the late Robert

Louis Stevenson were unable, but anxious, to discover whether the notes made by him in a certain book were written before or after he had taken up his residence in Samoa. *A fly which had been squeezed between the pages settled the question,* for Mr. Verrall at once pronounced the remains as those of an insect peculiar to the Polynesian Islands.—EDS.]

WEATHER REPORT.

WESTBOURNE, SUSSEX.

JANUARY, 1901.

Rainfall, 1·35 in.
Heaviest fall, ·21 in., on 8th and 19th.
Rain fell on 17 days.
Below average, 1·15 in.
Maximum Temperature, 52°, on 27th.
Minimum Temperature, 13°, on 9th.
Minimum on Grass, 5°, on 9th.
Frosty Nights, 15.
Sunshine, 70·5 hrs.
Brightest Day, 14th, 6 hours.
Sunless Days, 11.
Above average, 1·5 hours.
Mean Maximum, 41·3°.
Mean Minimum, 30·6°.
Mean Temperature, 35·9°.
Below average, 0·3°.
Maximum Barometer, 30·68°, on 23rd.
Minimum Barometer, 29·40°, on 31st.

L. B. BIRKETT.

Queries and Replies.

[2583.] *Early Breeding.* — On Saturday, January 12, when renewing the cake of candy in a weak stock of bees, I was much surprised, on removing the candy-box, to see a nice patch of sealed brood. Is not this very unusual? I may add the queen was reared late last year. —W. SCURRAH, *Well, Bedale, Yorks, January* 15.

REPLY.—Brood-rearing in January is by no means uncommon with very strong stocks headed by young queens. It is, however, always a sign of prosperity and early breeding to find sealed brood early in the month.

[2584.] *Home-made Hives.*—I propose to make a "W B.C." hive from an article in *Work*, and before doing so beg to ask the following questions:—1. Is it advisable to fasten the floor-board down to the stand? 2. Would the bees not go up between the body-box and the outer-case and build comb, as there is a space of an inch or more above the entrance? 3. How would it answer to use, instead of section-racks, frames made to hold six sections, the same as ordinary standard frame, but made same width as sections, and with slotted dividers between each, like the "W. B. C." section-box?—W. H. H., *Banbridge, January* 30.

REPLY.—We are not aware of instructions for making the hive referred to having appeared in *Work*, and would be glad to know in what issue of that paper such instructions may be found. For the rest, we reply:—1. The "W. B. C." hive has a loose floor-board and a detachable stand, and we advise no departure from this. 2. Means are taken to prevent the trouble referred to, if your instructions are correct, by placing a strip of wood across the sunk entrance in floor-board. 3. The standard frame will not hold six sections; but even if it did, there would be far less chance of getting finished sections in an ordinary sized brood-chamber than in a shallow section-box the depth of a single section.

[2585.] *Short Stores in February.*—The bees were flying to-day, so I examined my hives to see about supplies. In one (a first swarm of June 3) I was rather alarmed to find only a little sealed store in one comb. I immediately prepared and gave a small cake of candy weighing about 1½ lb. I shall make more to have in readiness, but am unwilling to disturb the bees unnecessarily, and therefore ask:—1. How long will the small cake last? If I give about the same once a week, will it be sufficient? I am a beginner and do not know very much about the quantity of food needed. The hive I refer to did not gather any surplus, but I thought it had sufficient for winter. I tried to give the bees some syrup in the end of September, but they only took down a very little—nothing like so much as if it was being stored in the combs. I did all I could to keep the food warm when feeding, but at last concluded that the bees knew what they were about and had plenty of stores. However, I gave a 2 lb. cake of candy and covered it warmly down. The stock seemed very strong in autumn. A second swarm which came off a fortnight later gathered nothing at all, only managing to draw out comb, but I fed the bees liberally and its stores are now not nearly exhausted; indeed, I think I gave it too much. 2. Instead of feeding in spring will it suffice if I uncap some of its sealed store? 3. My original stock (a straw skep) was fed a little too much last year, and it weighed 28 lb. on October 3. Will it be all right?—M. M. M. C., *Braehead, N.B., February* 2.

REPLY.—1. A 1½ lb. cake of candy will last considerably over a week, but should be renewed as often as required. If given in a glazed box it can be seen when renewal is needed without more disturbance than lifting the loose coverings above. 2. Yes, so long as there are sealed stores, which is not at all certain, so you had better examine early on and make sure of this. 3. We think so.

EXTRACTED HONEY PRODUCTION.

FROM AN AMERICAN POINT OF VIEW.

Some months ago I was writing a series of articles for the *American Bee Journal.* I concluded the series so far as comb-honey

production was concerned, and in the issue of June 21, 1900, I gave the first article on extracted honey production. Just about that time I found myself so occupied with other work I could not continue the articles, hence this lapse or break in the series. In order, therefore, to refresh our memories, I shall have to sum up or repeat a little of the ideas in the former article.

In the comb-honey articles I taught the great importance of having very strong colonies while section honey was being stored. When entering on the description of extracted honey production, I still advocated strong colonies. I also pointed out that comb-honey stock would pack brood-combs very closely with honey, but when extracted was produced, especially with abundance of store-comb, the brood-combs were left very lank or thin. I urged that the apiarist note this difference in the amount of stores found in the brood-chambers, that run for extracted, having brood-combs so very scantily stored as to cause death of colonies from starvation when comb-honey colonies in like hives had stores in plenty.

There is also another cause for starvation of extracted stock ; the very fact that the latter stores the honey in the extra, leaving plenty of brood-room, leads to the development of much more brood. The two colonies may not seem very different in strength during the flow, but since the comb-honey colony has its combs with much honey and little brood, while the extracted honey colony has just the reverse, this causes the latter to have a great force of bees *after* the flow is over. This host of bees produces quite a different condition of affairs from the other.

The great amount of brood and bees with the extracted honey stock *after* the flow may, under certain conditions, be a benefit. Should there be a later flow that these bees can forage upon, they may prove to be just what we want ; but if there is a dearth of nectar, and they are in enforced idleness, they may be of little use. If we know perfectly our field we will know just what to do, but it is not always possible to know. However, most apiarists know fairly well whether they are to have any nectar yielding late to employ the bees, and if there is none, then it follows that there should be provision made for the conditions. I am using for extracting, nine-frame American hives. This frame being about 12 inches deep, it would be inclined to catch more honey than a shallower frame, yet I find these hives run for extracted honey to contain less honey at the end of the flow than do Langstroth frame hives of the same capacity when run for comb.

I have no late flow ; hence the condition on the hive as to stores at the close of the summer flow is the condition practically for winter. As it takes thirty to forty pounds of honey to carry a colony through in this field, I am compelled to do more spring feeding of the extracted-honey stock, or else use a larger hive for them. I have before given my experience in this matter, but it will do no harm to state it again. For several years I lost heavily of my extracted-honey stock from starvation and general poor condition in spring, caused by shortage of stores. Since then I have given larger brood-chambers, and, when so, this stock winters and springs as well as comb-honey stock, if not better.

Note that the comb-honey stock well provision the brood-chambers, this very fact reducing the amount of bees going into winter. We might reason, as many have done in the past, that we do not want a big force of bees to go into winter, that it takes so much to feed them. That argument is very good if the bees are cellared, but for outdoor wintering I believe the big colony the better. It does consume more honey, but then they winter more safely. I have wintered a great many colonies in two-story American hives right along with one-story ones, and the two-story hives have rousing big colonies when the June flow comes, plenty of honey and far more bees than the one-story ones. The big two-story colonies will be storing surplus when the others are barely ready to enter supers. This testimony will give comfort to the Dadants, and I am sure that for outdoor wintering they are right, that the big hive is the better. I believe the net results to be better from such.

In producing comb-houey it is true that a very large brood-chamber colony may get to swarming before they do section-work, but this does not apply so much to extracted-honey stock where a set or two of combs above, ready to store in, attracts the bees to them.

Conditions (that is "locality," sometimes) make a great difference. I call the reader to note carefully what I am just now to put before you, for these matters must be understood or you will say the doctors do not agree.

I have been for several years in a field in which the few weeks *just preceding* the June flow were weeks of an ABSOLUTE dearth of nectar. Now, reader, suppose you were here with your bees under such conditions. Suppose they were in eight-frame hives, and the last half of May and first half of June there was practically *nothing* for them in the fields, and the stores at home very low. Do you think you would have any swarming ? Or even a proper amount of breeding ? You would not need to bother your head about how to keep down swarming—I will guarantee no swarming-fever under such conditions.

Now, suppose your bees, instead of being in eight-frame hives, single story, were in two-story or sixteen-frame ones, stores to be in proportion. I can tell you that such two-story hives well provisioned, weather warm, and other conditions favourable, you would have *some* swarming before the flow, and much more after it began. You could, by

careful and judicious management, handle your one-story hives so as to have good colonies, but it would have to be done by close watch, and never at any time allow the colony to get out of stores, and while they would have very little ahead make them *handle what little they do have.* One principal factor in inducing free laying by the queen is to have *workers with full sacs* much of the time.

Thus it is *possible* to have bees carried through the spring in a dearth of nectar, bringing them up to a honey-flow in good condition and no swarming-fever. Such colonies will go into the sections and work for some time without swarming, many going through a flow and not swarm if care is used to give and keep plenty of room in supers. But, should there be a little nectar from the fields for two or three weeks *just before* the flow, and at no time a scarcity of old stores, some would no doubt be ready to swarm at or about the beginning of the flow, if not sooner.

Your two-story hives having a great abundance of two things (yes, three)—stores, empty comb and house-room—will breed just about as rapidly under the complete-let-alone plan as will the other with the coaxing and encouragement. The large hive is the easiest to winter and spring, for two reasons—1st, because they go into winter with a host of bees, and can endure the cold, and so have more bees in in spring to start and care for brood; and 2nd, because there is a plenty of feed at all times, both winter and spring. As before stated, I find my two-story hives build up faster in the spring, and make great rousing colonies by the time the others are in fair condition. I cannot account for it in any other way than the great amount of brood and bees in the fall being a protection against cold; earlier and more rapid spring breeding from some cause; and a courage and ambition because of the much empty comb to occupy, and backed by a rich store of honey.

I wish here to say that there is another probable reason—perhaps I should leave out the "probable." When a colony is wintered in two chambers, that have been under conditions that find the brood and cluster low down or in the bottom hive in late fall and early winter, they work upward in winter and start breeding in the top hive in the spring. This leaves honey below the cluster in lower outer combs, and this they will from day to day carry up and store *above* and *about* the brood. You see, here is a condition that causes the workers to handle honey, have full sacs, also open stores and a well-fed queen and brood. It all conduces to the welfare and prosperity of the colony. It is a condition that is very like a flow of nectar, and is obtained with the least care and labour on the part of the apiarist.

Now I think I hear E. R. Root hurrahing! for two-story eight-frame hives, and I think he is not far amiss as to the results to be obtained when they are rightly managed. If you winter bees outdoors, use a larger hive for the cellar. If you produce extracted, use larger hives than for comb honey. If you use eight-frame hives, use two of them for a brood-chamber in very many cases; but you can contract if you choose, when the flow comes on.—R. C. AIKEN, in *American Bee Journal.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. SPEARMAN (Colesbourne).—*Largest Apiary in Great Britain.*—While unable to say positively who has the largest apiary in the United Kingdom, we think, if you "have over 300 stocks now," the probability is that yours can claim priority in point of numbers. Perhaps some readers may know of a larger apiary, but we do not.

R. W. HEWETT (Hants).—*Suspected Comb.*—No disease in comb sent. The dead brood in sealed cells has reached the pupa stage, and is in normal condition.

AYRSHIRE.—*Candy-making.*—We see no defect in candy sent; it is a very good sample, smooth in grain and soft in texture.

W. ADEY (Cardigan).—*Honey Samples.*—Both samples are fairly good in quality, the one in broken jar being best of the two. No. 1 is dark in colour and not quite equal in flavour to the other.

GEO. BURNBY (West Kensington).—*Starting Bee-keeping.*—We know of no better handbook for beginners than the "Guide Book" issued from this office as giving the full and general instruction you ask for.

F. HAMSHAR (Burgess Hill).—*Protecting Cattle from Bees.*—With a fence of iron hurdles and a space of 50 ft. between fence and hives, there should be no danger to cattle. It might, however, be a useful precaution, just when removing honey from the hives, to drive the cattle to a distant part of the field, unless great care is taken to avoid disturbance, or by using the "super-clearer."

F. JELLICO (Mountmellick).—*Use of "Ekes" for "W. B. C." Hives.*—The "eke" referred to has no special connection with honey-production, either comb or extracted. The particulars already published regarding the eke and its use will make all clear regarding it.

Editorial, Notices, &c.

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of this association was held on Saturday, February 9, in the People's Hall, Nottingham, Mr. W. S. Ellis, vice-president, in the chair. Among those present were Mrs. Hemsley, Mrs. Faulconbridge, Mrs. Turner, Miss Hunt, Mrs. T. Herrod, Messrs. G. Hayes, P. Scattergood, G. E. Skelhorn, W. Smeeton, T. Marshall, A. G. Pugh, T. N. Harrison, R. Mackender, J. Herrod, W. Herrod, G. Puttergill, A. R. Hazlewood, J. Gray, C. Forbes, W. Marriott, J. C. Wadsworth, Hemsley, J. Mackinnon, and A. E. Trimmings.

The balance-sheet for 1900 showed total receipts during the year £62 1s. 4d. The expenditure, which, after adding value of assets, reached £65 1s. 4d., left a deficit of £1 on the year's working.

The Secretary read his report, which showed the membership to be 172. He thought that, to mark the inauguration of the new century, the members should exert themselves individually and raise the membership of the association to 200 by the end of the present year. The committee had decided that the annual county show this year should be held at Moorgreen in September next.

The Notts County Council had during the past year continued their grant of £30 for technical instruction in bee-keeping, and by that aid they had been enabled to give demonstrations in seven centres, besides lectures at Chilwell, Upper Broughton, Hucknall, Watnall, and Balderton. The City Council had again renewed its grant of £2 2s., which enabled them to extend their aid to the bee-keepers in Nottingham.

The report and balance-sheet were adopted unanimously.

The remaining business was the election of officers for the ensuing year, Viscount St. Vincent being again chosen president.

Mr. G. Hayes was reappointed secretary, and Mr. Scattergood auditor. Messrs. Hayes and Pugh were re-elected delegates to the British Bee-keepers' Association, and Messrs. W. Ellis, A. E. Trimmings, P. Scattergood, S. W. Marriott, R. Mackender, C. Forbes, G. E. Puttergill, G. E. Skelhorn, A. G. Pugh, and T. N. Harrison constituted the committee.—(*Communicated.*)

ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The twenty-first annual meeting of the above Association was held on Thursday, February 7, at the Devonshire Hotel, Bishopsgate-street, London, Dr. Elliot in the chair, and amongst those present were Miss Aukland, Messrs. G. R. Alder, Kimber, J. Chesson, O. Puck, T. I. Weston, Griggs, Scoggins, and W. J. Sheppard (hon. secretary).

The President, the Countess of Warwick, wrote regretting her inability to be present, and stating that "she continued to take great interest in bee-keeping, and was pleased to see the flourishing condition of the Association and the useful work it is doing in the county."

The hon. secretary read the Committee's report for the past year, the expert's report, and the statement of accounts, which were unanimously agreed to.

The Committee's report, after commenting on the past honey season in Essex, stated, among other items of local interest, that forty-seven new members had joined the Association during the year.

An examination, conducted by Mr. W. Broughton Carr, for the B.B.K.A. third-class certificates was held at Chingford on June 30, when three of the five candidates passed successfully, viz., A. Bagley, T. Hammond, and Bertram Smith.

The spring tour of the expert, Mr. Withycombe, commenced on April 10 and terminated on June 2, during which time 270 members (owning in all 1,461 stocks) were called upon. The autumn tour began on August 13, and was completed on October 4, the expert visiting 276 members and inspecting 1,723 hives. Fifty-six stocks in the spring and thirty-six in the autumn were found to be affected with foul brood, as against seventy-four and twenty-nine last year respectively. Twenty-six stocks were found destroyed by wax moth, as against fourteen last season, which seems rather an alarming increase, and calls for greater vigilance in searching out and destroying the larvæ in the combs.

The statement of accounts showed that the Association is in a flourishing condition with a good balance in hand.

The Countess of Warwick was re-elected President, as also the same vice-presidents and officers as last year. The committee elected for 1901 were Miss Aukland, Dr. Elliot, Messrs. G. R. Alder, J. Chesson, Bruce, Cook, Kimber, Puck, Salmon and T. I. Weston.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4248.] February has opened in its customary manner by filling the ditches with snow. Our fields are covered, and some of our roads

are filled level with the banks or hedges on either side of them. My out-apiary is cut off at date of writing, while the home-apiary is imbedded in snow. We, however, managed to get around the latter to-day and brush the snow from the hive-roofs when the sun shone and the icicles began to drip. A few bees were tempted out by the sunshine and most of them thus allured to destruction. They seemed lost in the new surroundings; nearly all alight on the white sparkling snow, only to become chilled and incapable of flight. I blocked the entrances of some hives by a shovelful of snow on alighting-boards.

Size of Sections.—The size and width of sections still appears to hold the field. Mr. Lamb (4217, page 34) is "convinced we lose tons of honey yearly by using the present (2 in. or $1\frac{15}{16}$ in. wide) section" in preference to the embryo section we hope to evolve out of our discussion. Perhaps Mr. J. H. Howard can tell us something of the "Danzy" section with regard to its being any real advance on the $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. one, so far as affecting the output, the finish, and the time taken by the bees in filling and sealing. I appeal to Mr. Howard because he had a few "Danzy sections" at the late Dairy Show, and these were the only completed sections I have seen in this country of that size, though there has been illustrations from photos of filled "Danzy" sections in *Gleanings*. I fail to see the relevancy of Mr. Lamb's figurative, "Ten ploughs." Ploughing a field does not make it more full; as we wish our bees to fill the sections whether there be twenty-one or twenty-four on the hive at one time in the same rack.

The contemplated requirements mentioned by Mr. L. in the third paragraph of his letter are such as I have been using for many years, and, given a good spell of weather, a flow of honey, and strong stocks, I have removed just such full supers as Mr. L suggests we may secure when his narrow sections are adopted.

Regarding boxes of shallow-frames, mine are all $\frac{7}{8}$ in. wide. I possess one solitary wide-frame presented to me some years ago by Mr. Howard, filled with wood-based foundation. It is an excellent strong comb, otherwise it would have been discarded owing to the inconvenience of the wide frame being in the way of the knife when "uncapping" for extracting.

Mr. Lamb acknowledges that bees build store combs up to 3 in. thick, and puts the average thickness when left to their own devices as between 1 in. and $1\frac{1}{2}$ in.; but by measuring the thickness of comb in a $4\frac{1}{4}$ by $4\frac{1}{4}$ section he will find that it is about $1\frac{1}{4}$ in., not much thicker than the natural comb. I contend that we cannot dispense with separators or dividers in working for comb-honey, and the thinner the sections are made the more circumscribed is the space for the cluster of bees. Mr. Lamb overlooks another important point, viz., the extra wax required for sealing twenty-four or twenty-seven as against twenty-one sections. With a small "starter" of foundation the bees can cluster for wax secretion better than when a full sheet is used in the sections, because in the latter case they are at once divided up again; in other words, in a thin section between dividers the cluster of bees can hardly be more than $\frac{1}{2}$ in. thick, and although they would manage to fill the space somehow, I do not believe they would do so in the same time as in the sections now in use.

Mr. Lamb (on page 42) appeals—shall I say to "Cæsar" in alluding to the "Guide Book"?—as to the correct width from centre to centre of combs in supers—$1\frac{1}{2}$ in. to $1\frac{3}{4}$ in. Mr. Cowan is here referring to shallow-frames, because farther on he says the best results are obtained by giving empty combs (to this I would add that this observation applies with equal force to supers containing combed sections). Then, again, Mr. Cowan ("Guide Book," page 55), says:—"Usually three stories of sections are used at one time on the storifying system." In my hands this method would land me at the end of the season with a large proportion of unfinished sections. I rarely have more than two racks on a hive at one time; the third goes under the second when the first is placed on the "clearer." If Mr. Cowan's advice is followed by our Yorkshire brethren at the moors possibly we have here a solution of their difficulty at the end of the heather season in having so many unfinished sections. Bee-keepers are noted for their hopefulness; and piling on three racks of sixty-three sections, when the weather and season only warrants them to expect two racks full, may be one reason for their failure. We have no heather in my district, so I have had no practical experience along this line, but I opine I could give the cue to a solution of one impediment to successfully obtaining completed sections at the moors in a fairly good season. I am thankful to Mr. Lamb for starting the discussion, and hope it may lead to some tangible results. The "Danzy" sections are obtainable in this country, and those who would like to give them a trial can easily do so by a slight alteration—or wedging up—in the present racks, or even in shallow-frames, with some small blocks to fill spaces.—W. WOODLEY, *Beedon, Newbury.*

SIZE OF SECTIONS.

"NOTES" AFTER PRACTICAL TRIAL.

[4249.] I have been following the discussion on the size of sections started in your pages by the Rev. R. M. Lamb with much interest. I see that Mr. Lamb now advocates not only a *thinner comb* in the section, but also a *larger* and *taller* section than our present $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section.

Having been for some time interested in the question of tall *versus* square sections, I last year gave the tall sections a trial, and

selected for this purpose Root's "Ideal" Plain Sections, which measure 3⅞ in. by 5 in. by 1½ in. These sections have a thin comb, as recommended by Mr. Lamb, but when finished they weigh only about 13½ oz. Owing to the bad season I got only a few of these sections finished, but every one who saw them thought them much better looking than the ordinary 4¼ in. square sections.

Two improvements in sections have of late years been introduced in America, viz.:—Plain sections (*i.e.*, without bee-ways) and tall sections. To my mind the tall section is the more important invention, and the one that I think will be best appeciated in this country when its full merits are known.

Three standard sizes of sections are used in America. These are :—

(1) 4 in. by 5 in. by 1⅞ in. (plain) ;
(2) 3⅞ in. by 5 in. by 1½ in. (plain) ;
(3) 4¼ in. by 4¼ in. by 1½ in. (plain); or by 1⅞ in. with bee-way.

The approximate weights of each when filled and sealed are repectively :—

(1) 15½ oz. ; (2) 13½ oz.; and (3) 14 to 15 oz.

In this country we have the following :—

4¼ in. by 4¼ in. by 2 in. (bee-way) and the 4¼ in. by 4¼ in. by 1⅝ in. do.

both weighing when finished about 16 oz.

From the above it is easily seen that (allowing ⅜ in. as the difference in width between a plain and a bee-way section) in two of the American standard sizes the combs are ⅛ in. thinner than in our ordinary 2 in. section, and in the third (the 4 in. by 5 in.) they are no less than ¼ in. thinner ; in short none of the combs in the sections in regular use in America are as thick as ours. Mr. Lamb's remarks about the advantage of combs thinner than those we have at present in our sections are therefore practically endorsed by the whole of the American bee-keeping fraternity, and may well arrest our attention.

"Honey ripens better and sooner in shallow sections, and though they contain more wax they are more likely to be capped over than thick ones in a poor season." This is what the editor of a widely-circulating American bee journal said last year in favour of thin combs, and the statement is reasonable enough to be applicable also on this side of the water. Its truth was very plainly demonstrated to me in my own apiary last year. An unusually large number of my sections were only partly finished, the combs being evidently too thick for the bees to fill them in the short time that the honey-flow lasted. Shallow-frames, on the other hand, were well finished ; with the result that I had plenty of extracted honey from shallow-frames and unfinished sections, but very little comb-honey. I am sure that this has also been the experience of many others. So much for the advantages of a *thinner comb.* I also agree with Mr. Lamb in his further demand for a *taller section.* It will have been noticed that two of the standard American sizes of sections are tall. Mr. Danzenbaker, a leader among American bee-keepers, says in favour of the tall sections, "Nine customers out of ten will select a tall section, even if it costs more money. But this is not all the reason. Our tastes have been educated to common objects that are taller than broad—windows and doors in houses ; glass in the windows. Imagine a house with square windows, having square window-panes, square doors, square everything!" It is also claimed by many who use the tall sections that they are easier and quicker finished, the bees building downwards faster than sideways. After all, "the proof of the pudding is in the eating," and the best evidence in favour of the tall section is that it is certainly gaining ground in the favour of American bee-keepers.

The question now arises, if we want a thinner and taller section than is used at present, what are its dimensions to be? Sections can be made all sizes, and this is a question for serious consideration.

The weight of the section when filled must approximate, in my opinion (at least at first), 1 lb., for the consumer in this country has not yet been educated to take a light-weight section as he has been in America.

The thickness of the new section should, I think, be not less than 1⅝ in. in a bee-way section (or 1⅞ in. in a plain one). These points being settled, it now only remains to decide the height and width.

I see no particular advantage in adopting a section three of which will fit a shallow-frame, as comparatively few bee-keepers now put sections into shallow-frames. To have a size that will go into a brood-frame is still less a necessity. We want a section that we can use in a super similar to the supers that are most commonly in use at present, and if it is unnecessary to alter the dimensions of the super to take the new section, so much the better.

A section 5 in. high, 4¼ in. wide, and 1⅛ thick would probably average a full 1 lb., and would have the great advantage of fitting the present racks if they are raised ¾ of an inch. The same section, 1⅝ in. thick, would probably average a light 1 lb.

This is the No. 2 size recommended by Mr. Lamb on page 53. I believe that a tall 1-lb. section of these sizes would be as much preferred to the present square one as the new tall 1-lb. honey-jar is to the old-fashioned broad and low bottle. It would have the two special advantages of being more easily finished by the bees and of having ¾ in of comb added to its height. These tall sections will be ¼ in. thinner than the 1⅛ sections now in use and the ordinary section racks which are made to take twenty-one of the latter will accommodate exactly twenty-four of the former. Sections of this size have already been used in America. I have ordered a supply of them from the

A. I. Root Company, which will arrive in good time for use this year, and I shall be pleased to hear from any bee-keeper who would like to try them.—F. W. L. SLADEN, *Ripple-court, Dover, February 7.*

SOME ESSEX NOTES.

"WELLS" HIVES.

[4250.] In reply to Mr. J. A. Horn (4240, page 54) let me say my objection to the "Wells" hive is its unsuitability for general adoption. My own results have been equal to those of Mr. Wells, and I have also succeeded in preventing swarming, but with some years experience of bee-keeping on the double-queen plan in my own and other apiaries, I should fail in my duty if I did not caution inexperienced bee-keepers against courting failure by keeping bees on the Wells system. Having moved a good deal among bee-keepers, I am able to say that nothing does so much harm to the pursuit as the person who gives it up in disgust, and this is just what is likely to happen when a beginner starts by adopting the system in question. I would point out that bee-keeping on Mr. Wells's plan for securing surplus honey from the heather in August may, and should, be successful in the hands of an experienced bee-keeper in cases where the troubles of the earlier season are generally absent, but not otherwise.

Size of Sections.—If producers of heather honey find the section now most generally used unsuitable for their purpose, I see no good reason why they should not adopt one of a size that they find from experience will give a better result. But it seems to me that instead of using a smaller section the desired end would be attained if a rack to hold less of them was adopted. If racks to hold fifteen sections were used for heather honey these would be smaller than the hive, and the heat from the bees below, being thus economised, would assist the bees in maintaining the necessary warmth, while the empty space outside the super allows for more warm covering to the sections. This is a matter of importance in keeping up the temperature in supers. I fully realise that smaller supers would mean extra journeys to the hives at the heather. But the result would be better sections, and more of them completed. I have myself had no experience in heather-honey production, but the conditions are almost exactly similar to those existing when we have an early spring honey-flow in this district.

"*No Pains No Gains*"—Your rev. correspondent who writes under this head (4238, page 53) does not appear to know that at exhibitions held under the management of the B.B.K.A. and most of the associations affiliated to the parent society, honey in any stage of granulation is ineligible in a class for liquid honey, and *vice versâ*. Under the present rules all run or extracted honey has to be shown in clear liquid condition, unless a class is provided for granulated honey. The question arises, what is the most suitable word to use in speaking of bringing back granulated honey to liquid form. I think "re-liquefied" is preferable to "clarified," because the latter conveys to the mind of the uninitiated the impression that the honey has been tampered with in some worse way than merely warming-up. While quite agreeing with your rev. correspondent in saying that granulated honey can be brought back to a liquid state without rendering it less palatable, great care must be taken, or any competent judge will pass it over. I also agree with Mr. Woodley that, so far as is possible, honey should be exhibited in the condition most natural to it at the season when the exhibition is held, but while there are customers who prefer clear honey at all seasons we must meet their wishes. If we can have the classes for extracted honey more fully described in the schedules, viz, 12 jars of granulated honey, 12 jars of honey gathered in 1901 (to be shown clear), and 12 jars of re-liquefied honey gathered in 1900 or any previous year, I think this is all we require. Having considered this question of warming honey from all points, I find that the insertion of 're-liquefied" in description of the class for old honey to be shown clear will not only remove some doubts, but will, by one word, explain the whole matter to the public.

(*Continued on page* 66.)

HOMES OF THE HONEY BEE.

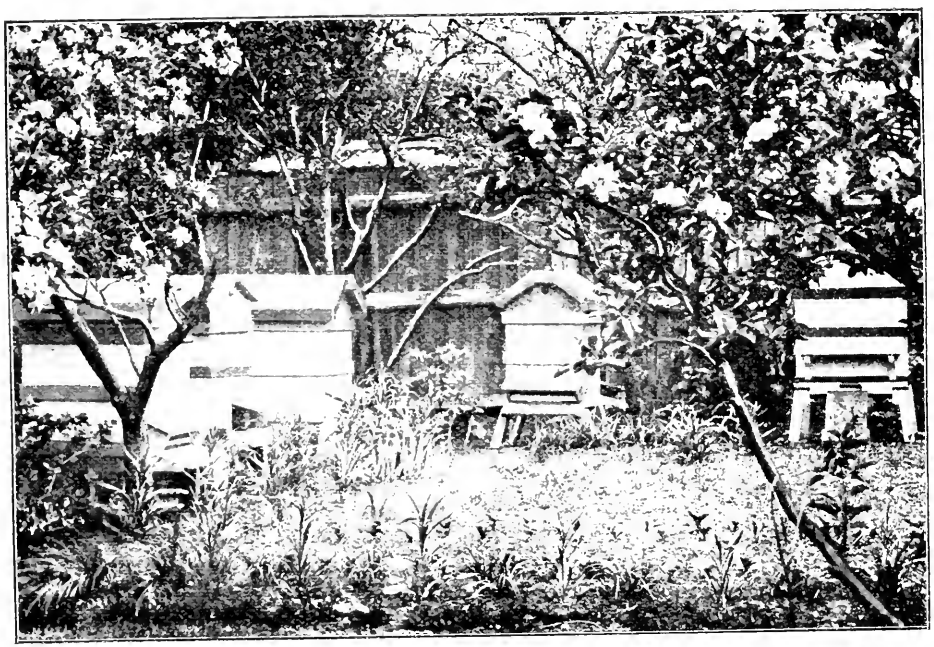
THE APIARIES OF OUR READERS.

The photo reproduced on next page was sent, not for inclusion in our bee-garden pictures, but as one of many New Year's "cards" conveying good wishes for the coming year; and as it makes a pretty picture we took the liberty of appropriating it. Mr. Newth, in consenting to its appearance in print, says:—

"I feel that a picture of my little bee-garden being honoured by a place in our BEE JOURNAL puts me in rather a false position, seeing that in sending it on I had no thought of its inclusion in your 'Homes of the Honey Bee'; your 'proof' of the tone-block, therefore, came as a surprise. However, as you ask for a few 'notes,' I must perforce reply. It is only two summers ago that I fell a victim to the bee-keeping mania, so that I am quite a novice in the craft, and any experiences of mine are more likely to provoke a smile than to interest readers of the JOURNAL. I first caught the infection on hearing a lecture in the bee-tent at a local flower show in 1898; and by the following summer I had become a bee-keeping enthusiast. My start was a little interesting perhaps, as showing what even a *late* swarm can do under favourable weather conditions in this neighbourhood.

The swarm issued on July 5 from a friend's hive at Wimbledon. It was hived on ten standard frames of foundation (not wired, as I found later—*Mistake No.* 1) and conveyed to my garden, six miles away, two days later (*Mistake No.* 2). The depth of my ignorance regarding bees at that time was so great that I had never even seen the inside of a frame-hive, and therefore did not know that *Mistake No.* 3 had been committed by the frame-tops having no other covering than the cotton quilt! I was told not to expect any surplus, that the bees would do no more than stock their combs for the winter, and that, therefore, I had nothing to do. As time went on, even my inexperienced eye led me to think all was rights, and we got from it a very fair haul, in spite of all the mistakes enumerated. After giving me this useful help the expert advised me to get Cowan's 'Guide Book,' and also to join the Surrey B.K.A., both of which hints I promptly took advantage of.

"I consider that one of my best investments has been a number of bound-up volumes of the B.B.J.; it certainly has spared our kind Editors a good many questions, for on perusal I have found the answers to numberless queries I had intended inflicting upon them. I often think it is a great pity that these back volumes could not be within easy reach of the hundreds of bee-keepers who are constantly asking questions which have been fully



MR. G. S. NEWTH'S APIARY, WALLINGTON, SURREY.

not going on right, and therefore, taking advantage of another bee-demonstration near by, I determined to consult the expert, who proved a real friend in need. He examined my hive the same day, and found the bees had not only drawn out and filled all the ten frames, but had bored holes through the cotton quilt and built a quantity of comb in the roof, much of which was filled with sealed honey. The bees had also so clogged the brood-nest with honey for want of super room (*Mistake No.* 4) as to reduce the queen's breeding space to such an extent that if not remedied I should soon have possessed a hive full of honey and no bees. Had I supered, he said, I might easily have had 30 lb. of honey. All this, be it observed, between July 7 and August 7. However, he put the hive to

answered before, often many times. I would gladly circulate mine amongst those who cared to read them, if safe return could be assured.

"The hives in my garden number seven, and as my space is very limited, I am carefully studying the various plans proposed for preventing swarming and avoiding increase. My hives stand in a little orchard, between the trees, but with a free flight. The plants seen about the hives are young cornflowers, which in the summer formed strong bushy clumps between the hives, and helping to shade them from the sun. The rest of the free space in front is now crowded with crocus bulbs. During winter I cover the roofs with what I call my 'umbrellas.' Three of these are seen in the photo. These are made of thin sheet

galvanised iron, painted (which is much cheaper than zinc), the edges being bent over and soldered. These covers project considerably beyond the roof, so that rain drips off without being driven back under the roof by the wind. By way of experiment I am trying 'umbrellas' made of 'Willesden' waterproof paper, tacked on to a light wooden frame, and given one coat of paint. They have stood the recent wet winter perfectly. Personally, I derive much comfort on a wild night of wind and rain from the certainty that the little inmates of the hives down the garden are perfectly cosy and dry.

"Paradoxical as it may sound, my first sting afforded me the greatest satisfaction, for it had no uncomfortable effect at all upon me. Since then I have had many stings. On one occasion, in hiving a truant swarm for a neighbour, I foolishly went just as I was, in tennis flannels and armed only with a veil. The swarm was difficult to get at, and I received a shower-bath of bees in shaking them down, so that I had to run up to my friend's dressing-room and half strip myself to free my clothing from bees. I had a whole battery of stings discharged into me, but they produced no effect whatever. I am happy to say that although the members of our household are constantly about my bee-garden—especially when the fruit is ripe—no one has been stung (except my little dog, once), nor have I ever heard of any neighbours being annoyed.

"I cannot conclude my 'notes' without expressing surprise never to have seen mentioned as bee-forage the *Ampelopsis Veitchii*, now so familiar as a creeper to cover many suburban dwellings. The back of my house is covered with it, and for about a week in the summer, when it is in bloom, the hum of the bees in it is audible throughout the house. Round about in the gardens there are a number of flowering trees which the bees visit very freely. A gigantic acacia next door to me, for instance, when in bloom is like a veritable orchestra; and the green spikes of blossom on the sumac, which is very plentiful about here, sing a song which is true music to the bee-man's ear, and adds one more to the many pleasures derived from 'keeping bees.'"

CORRESPONDENCE.

(*Continued from page* 64.)

Spacing Shallow Frames.—Your correspondent, C. A. Atchley, who writes in B.B.J. for January 31 (4228, page 3), had a disappointing experience through doing the right thing in the wrong way.

Had he at first given ten frames in the space where he gave eight the result would have been quite different. It is seldom safe to give empty frames, or frames with foundation only, when using wide "W. B. C." ends. It is usual to give ten frames, and when the combs are half worked out to remove two of them. Thus, if four hives are supered at one time, there will in a few days be eight combs to fill a 5-lb. super. By working the wide ends, one behind the two on each side of it, these can be put on at the beginning, and every other frame can have its ends brought forward into position when the two spare combs are removed. The fact of the bees having built their combs outside the frames, between every two combs in the first super, would make it necessary to do the same in the second super, to correspond with the top or bottom edges of the thin combs in the first super, *i.e.*, from the bees' point of view.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

ANCIENT BEE-BOOKS.

"A Profitable Instruction of the Perfect Ordering of Bees, &c. By Thomas Hill, Londoner, 1593."

[4251.] Are we to write down Thomas Hill, Londoner, as a "mere plagiarist?" To support the charge, your correspondent, Mr. E. Drory (4200, page 16), calls in the authority of Charles Butler, the father of English bee-keeping, to whom all reverence. Butler is very severe on "T. H." of London, and truly, on the face of things, "Georgius Pictorius," seems to have been badly treated. What a pity, by the way, that we no longer turn our names into sonorous Latin. Style him plain George Painter, and the "learned physician" is not half so imposing.

Let us not forget that whatever Thomas Hill may have done, his was to all appearance the first regular treatise on bee-craft in our mother tongue. "A thing verie rare, and seldome seen in the English tongue," says he in his preface. Think of that, you twentieth century weekly readers of the British Bee Journal; think of it, and be lenient. At the date given above, the reign of shrewd Queen Bess was drawing to a close, and Shakespeare had just begun to write the dramas that were to make him world-famous. We cannot tell whence the great genius gained his undoubted knowledge of the ways of bees; but since, according to his crony, Ben Jonson, Shakespeare "had little Latin and lesse Greeke," it may be that one of the earlier editions of our author's treatise was not unknown to him.

Thomas Hill was a maker of books. Many were his subjects; he was a laborious, or as he himself would have termed it "a painful translator." The first book of his known to me is "A brief epitomeye of the whole art of Physiognomie," by Cocles—*Englished* by T. H. 1550. The next is "The profitable arte of gardening now the third time set fourth." To this annexed two proper treatises, the one entitled "The Marvellous Government . . . . of the Bees . . . .," and the other "the yerely Conjectures, meete for husbandmen to knowe." *Englished* by T. H. London 1568. Thus it appears that although Georgius Pictorius is not mentioned in the title, T. H. makes no

claim to originality. He "Englished," worthy man.

An edition of his treatise "Imprinted at London by H. B. 1608," and delightful in its old world mingling of black letter and Roman characters lies before me. On the second title-page is the admission :—"gathered out of Pliny, Albertus, Varro, Columella" (&c. &c.) "and divers other singular Authors." Including, no doubt, poor Georgius Pictorius. Not generous to the learned physician, but quite "on the windy side of the law," even if Butler's accusation be literally correct. But can we be quite sure of that?

It should be remembered that in those days it was the custom for authors, more especially those who wrote on the same topics, to belabour each other in a free-handed way that would seem to modern readers very startling. Furthermore, Hill must have been, from his occupations, a well-lettered man, well used to translation. He can hardly have needed G. P.'s aid in translating the well-known authors from whom he borrowed. May we not, therefore, conclude that Butler's "translating word for word into English, as well as he could" (rather spiteful that, Mr. Butler) may be taken, in the absence of verification, as somewhat beyond the facts? With some confidence then, I venture to submit that the verdict "a mere plagiarist" be not confirmed by the high court of readers of the B B J.; but rather that—Mr. Drory and, let us hope, the shade of Georgius coinciding—they will write down the worthy Thomas as nothing worse than a keen collector, or, if you will, a "snapper up of unconsidered trifles."

Hill wrote at least one other book about bees. Edmund Southerne, in a most interesting treatise published in 1593, to which I hope to refer another time, writes as follows, under the heading, "That it is not good to kill the Drones" :—"Many men holde that it is very necessarie to destroy them, and thereto devise sundry instruments for the accomplishing of so great a folly, but above all one T. H. of London in his booke intituled The Gardner's Labyrinth sheweth the manner how it should be done. Saith he, take one of ye Drones and pull off his legs and one of his wings, and put him into the Hive againe, and as soone as the Bees perceive it, presently they will fall upon the rest and so kill them all."

Having never met with "the Gardner's Labyrinth" I cannot say whether Hill puts forward this ingenious and rather gruesome device as his own; in a modified form it is to be found in the treatise.

Little is known of Hill's life. I have it in my notes that he was dead by April, 1599, and that he was taken to task for practising astrology. Possibly the new National Biographical Dictionary may have more to say about him. Not much need be said of the treatise: it is not the work of a practical bee-master. The following extracts will suffice: "How Bees do naturally engender. First the Bees proceed of Bees by the actual doing together, after which they lay egges, sitting upon them as the hens do on their eggs. And when they have sit on them for the space of 45 (? 4 or 5) daies, then do they hatch their yong ones, which yong (at the first) come forth like to white wormes, except the King, who onely as he is hatched hath wings. In the time of their sitting they make much noise to get them heat withall. And about the sides of the combs, be sometimes greater bees bred, which men for their sound and noise properly name Trumpeters, and they also have whole hornes, of which come the bastard bees. There be also other bees bigger in bodie, much like to the kings, but they be idle and have no sting, because of the heaviness of their body. All which kinds Guilihelmus de Conchis did observe in the Hives of a certain Consull of Rome, which properly were made of a very thinne and clear horne."

Regarding the profit of bees: "As Varro affirmeth the same of two head Gentlemen in Spaine, which onely by the meanes of their Bees, gained yearly ten thousand pounds (but I rather thinke five thousand pound, which also is very much)."

Various recipes are given such as "the manner of distilling a water of hony, named the Quintessence." "Of the drink Benomel, which is made of pure wine and hony." The book concludes :—"Thus gentle Reader I have (I trust) fully satisfied thy desire in as many things as are needful to be knowne: wherefore I commit this my little Booke to thy gentle judgement. If thou maist receive any profit or commoditie thereby, I shall be glad of it: and if not, yet favourably let it passe from thee to others, whose knowledge and experience is less than thine herein, that they may gather such things as to them are strange, though to thee well knowne before. And thus briefly I commit you to Almightie God."

I take this opportunity of thanking Mr. Drory for mentioning the Italian list of bee books. Can he not supply our editors with the English portion of it for publication?—South Devon Enthusiast, *February* 7.

THE TONGUE OF THE BEE.

[4252] The tongue of the bee is a piece of perfection and in every way is admirably suited to carry out the purpose for which it was created. It is a wonderful piece of design and skill. It is complex in its mechanism, yet simple in its arrangements. Several other parts of the mouth have to be considered along with it before its action and proper function can be fully appreciated or understood. It really forms a part of the labrum or under lip, and is encased when at rest by the upper and lower jaws. The mentum, which lies far up in the mouth, contains the muscles, which by their expansion and contraction enable the insect at will to stretch out or draw in the

ligula or true tongue. Again, the maxillæ and labial palpi combine to form a cavity in which the tongue moves backwards and forwards. All these combined really form a tube. This is an important feature in the design and serves to make the action of the tongue, as a honey collector, capable of adapting itself to any supply, small or great, which the bee may find in the flower visited. Another feature worth noting is that the greater part of the tongue—especially the spoon or rounded part at the extremity—is covered with short triangular hairs, and amongst them we find a number of small pits or depressions which are generally supposed to be the special organs of taste. This spoon-part acts really as its name would imply. It is circular in shape and concave above. Where it is joined to the tongue it narrows to a point, and this, too, is formed to facilitate the action. The hairs covering this part are different in shape and size when viewed through the microscope.

When a bee visits a flower in which it knows honey is to be found, it calls its tongue into play in a very interesting manner. It never wastes its time in visiting flowers devoid of nectar, discovering, no doubt, by its sense of smell that they are not worthy of having valuable time wasted on them, however fair they may look to the eye. I have often given very close attention to the process while lying on a bright summer day on some heathery hillside, or in the midst of a field of white clover. As far as the closest observation could divulge, the plants left severely alone had not for some reason secreted any nectar. When, however, the bee's sensitive organ of smell found one redolent of sweet perfume, it hovered over it lovingly, and, thrusting in its tongue, it sucked up any liquid found there in large or small quantity. It is then that the peculiar tube-like formation I have noted above comes into play. When at rest the tongue is drawn back into the mouth, and it then, with the other parts, forms two cavities; but when extended in the act of sipping or sucking the liquid, all the parts form the shape of a true tube. The hairs already referred to as covering the spoon or extremity of the tongue take up the most minute quantity, and by capillary attraction convey it by other hairs to the end of the tube. The groove hitherto lying below is now raised to the upper surface. Where it joins the tongue the spoon is very narrow, and this greatly aids the transfer. As the tongue now takes up the liquid, the hairs, hitherto loaded, transfer it, and the tube comes into action and carries up the nectar along the canal down the œsophagus, and the liquid is forced forward, just as in our own mouths, into the honey stomach. At the back of the tongue there is a thick layer of muscles, which serve to enlarge or contract the tube, thus making it a true sucking organ. At times the single tube can, by the action of the various parts, be converted into two. When fairly large quantities of honey are found in flowers, the spoon and groove on the under side of the tongue, as well as the two tubes, are brought into action. If the quantity is large, both the tubes and groove are used, but if the quantity is very small the central groove only is used. Then in the latter case it is conveyed by capillarity and suction to the upper groove and then swallowed.

This adaptability to suit itself to the amount of liquid found in the flower is a very wise and interesting phenomenon. Shakespeare, always closely observant when dealing with Nature, shows he distinguishes between the common notion that the bee *sips* honey and the actual process of sucking in the following line,

"Where the bee *sucks*, there suck I."

As might be supposed, the tongue of the queen is not nearly so perfectly fitted for honey-sucking, the spoon especially being much smaller; while in the drone it is quite rudimentary, and incapable of performing the duty done by the tongue of the worker.

Frequently we see discussions arise in the bee papers about the relative length of bees' tongues, but I think, as far as it is possible to ascertain, in all races they are much the same. Bees with a longer tongue would work on many flowers, notably the red clover, teeming with honey, which is lost, as the tongues of our bees are unable to penetrate deep enough to reach the nectar. Bees with longer tongues are therefore much to be desired, but I fear are impossible of attainment.

Doctor (to lady): "Put out your tongue—further—further yet—a little further." She: "Oh, Doctor! Do you think there is no end to a woman's tongue!" I fear there is an end to the length of that of a bee.—D. M. M., *Banff, N.B., February* 11, 1901.

ANOTHER USE FOR HONEY.

[4253.] It is said that a certain lord found so much benefit from the use of the following mixture for rheumatism that he paid his physician £300 for the privilege of making it generally known, *pro bono publico.*

Recipe:—Sulphur, 1 oz.; cream of tartar, 1 oz.; rhubarb, ½ oz.; gum guiacum, 1 drachm; honey, 16 oz. A tablespoonful night and morning in a tumblerful of white wine and hot water.

This mixture is called "Chelsea Pensioner," and a man of my acquaintance having tried the same has been benefited.—JOHN BROWNING, *Woodchester, February* 9.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of January, 1901, was £1,060.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Queries and Replies.

[2586.] *Zinc covering for Hive-roofs—Transferring Bees and Combs.*—Kindly give me your advice on the following :—I have eight stocks of bees in frame-hives. The roofs are of wood, which is showing signs of leakage. I intend in the spring to cover each roof with thin zinc and paint it the same colour as the box. 1. Will the zinc painted absorb the zinc's heat more than the painted wood, and so perhaps make the interior too hot in summer? Would you advise me to put a sheet of thin felt between the zinc and the wood in order to render the inside cooler? 2. A party near here got a stray swarm of bees in 1899, and, not having a skep or a hive in which to house the swarm, I put them into a box about 5 ft. by 3 ft. and 4 ft. deep. The bees took possession of one end of the box, and built combs from back to front. He is anxious to have them removed into a proper hive fitted with standard frames, and asks my assistance. How would the following plan do :—Attempt operation in beginning of May. Cut away outside combs till comb is found containing queen. Tie any combs that are straight and which contain honey into the frame (say six). Fill up the others with full sheets of foundation. Place new hive on stand of the old, and feed with liquid food? 3. Another party here hived a swarm the summer before last into a box—say, 16 in. by 16 in. by 10 in. deep—without frames. He put in cross-sticks from front to back and from end to end. He also wishes them transferred into a frame-hive. Would the foregoing plan do, or what would you advise? The smaller box and the cross-sticks will, of course, render the operation more difficult.—JAS. A. M. REW, *Kinloch, Rannoch, N.B., January* 31.

REPLY.—1. We prefer zinc as being more rain-proof than wood, and if painted the comparative absorption of heat need not be taken into account. 2. The plan will answer if you have sufficient skill to carry it out properly, but with so awkward a "hive" to deal with as a large box it will need an experienced hand to perform the operation. 3. After getting through the first-named task you will be able to judge of the chances of the second one, but we should say the best and safest course will be to allow the bees of your other neighbour to transfer themselves to the frame-hive in spring by setting the box above the frames and allowing the bees to work down on the plan so often described in our columns.

[2587.] *Surplus from Swarms.*—I am located in the West Riding of Yorkshire and we have only one honey-crop, viz., that from the heather in August. Now my idea is that it would be a good plan to feed the bees liberally in spring and so get them to swarm early in the summer. If I succeed in this do you not think the swarms would be sufficiently strong to work the honey flow from the heather and yield some surplus the same season? I may say that I desire swarms in order to increase my stocks as I have only two hives as yet but I only started in the craft last year. An answer through your valuable journal will not only oblige myself but it will be of interest to bee-keepers about here, as I have heard some of them tell how they have had to feed the bees at the heather to keep them going. Of course, this has been when bad weather prevailed for a week after getting the hives to the moors. Last year scarcely anyone who took bees to the heather got surplus-chambers filled. Consequently any honey that was got had to be taken out of the brood-chambers. This condition of things made me think of Mr. Eden's letter on page 44, for it "relegated" us Yorkshire bee-keepers to the class "who have no honey to sell."—FRED PRIESTLEY, *Bradford, February* 4.

REPLY.—There is no doubt that by working judiciously in stimulating stocks to swarm early, and feeding such swarms during adverse weather or in times of scarcity, the latter may be got into the best of condition for storing surplus from the heather And if they could have been induced to start comb-building in sections before the heather begins to yield, it will only need plenty of warm wrappings, to guard against cold nights, to secure a good result.

[2588.] *Candy Feeding—Cleaning Floor-boards.*—1. Would you kindly tell me how much candy I should leave on one hive to make sure that the bees will not starve while I am away for a couple of months? They have sealed stores, but not very much. I shall be away all March and part of April, and I want to be sure that my bees will not starve. Is a 2 lb. cake sufficient, or should it be 4 lb.? I buy my candy, and the bees carry it down quickly. 2. Please advise me also as to changing floor-boards. I read that they are rather a source of infection, so that, I suppose, it is not a good plan to have one floor-board and use this while the one from each hive in turn is being cleaned? Is it better to have a spare floor-board and body-box for each hive and use them only for the hive they belong to? It seems rather an expensive way. 3. Should every super be painted for the next season each year, or are they less liable to infection? I do not think my supers are painted at all; they are a dark colour with use. Is it better to paint all supers white, and is it necessary to paint all frames also every season? — A BEGINNER, *Abergele, North Wales.*

REPLY.—1. As the bees carry the candy down quickly, we should give a 4 lb. cake at least to tide the bees over till early in April. 2. There is no need for duplicate floor-boards

for each hive. Scrape off all débris into a newspaper and burn it, returning the floor-board to hive when cleaned. 3. Do not paint frames or supers at all. Only the outsides of hives need keeping in good condition by painting, yearly—or, at least, every second year.

[2589] *Liquefying Honey.*—I should be glad to have a little further information with regard to liquefying honey. Mr. Chalon Fowls' article on page 29 does not state how the honey behaves subsequent to re-liquefication. I and my customers have a prejudice in favour of granulated honey, and in order to secure it in this state with the least possible trouble it is bottled within a month or two of being extracted. This practice has its disadvantages, and I shall be glad to know whether, and, if so, how soon, the honey re-liquefied in accordance with the method before-mentioned would be re-granulated? 2. Will Mr. W. Woodley kindly say what he means by "clarifying," when writing on page 33? He evidently refers to a process which is something more than clarifying as ordinarily understood. I am curious to be made acquainted with a practice which results so well for those who make use of it.—J. MORGAN, *Pontypridd, January* 28.

REPLY.—1. If customers prefer to use honey after it has become granulated you cannot do better than continue the present plan of jarring it while liquid and allowing it to stand till solid. Mr. Fowls melts his honey because his customers want it in liquid form. If yours prefer it solid, where is the need for re-liquefying? 2. The letter headed "No Pains, No Gains" (page 53 *ante*) may tend to explain what is meant by "clarifying."

[2590.] *Bees in Damp Hive.*—I should be glad of your advice on the following points in the B.B.J.:—I have just looked at my hives (three in number) and find that wet has got into one of them through a leaky roof. The outside combs have mildew on them, and the bees—which now only cover three combs—exude a brownish, evil-smelling liquid. I therefore ask:—1. What is the cause of this? 2 Will the mildewed comb be of any use? 3. Will it be safe to unite the remaining bees with either of the other two stocks, both of which are healthy? 4. Can I use any of the stores from the affected hive for the other hives? 5. What is the name and address of the secretary of the Essex B.K.A., as I should like to become a member?—JOHN M. PATERSON, *Loughton, Essex, February* 9.

REPLY.—1. The symptoms detailed—although too briefly for enabling us to form a reliable opinion—point to the bees being affected with dysentery owing to the unwholesome food and the damp atmosphere of the wet hive. 2. Dampness would also account for the mildewed combs, which had better be melted down for wax or burnt if soiled by the excreta of the affected bees in addition to the mildew. 3. If the bees are numerous enough to be worth saving—which we doubt—it would be "safe" enough to unite, but to use a colloquialism—"the game is not worth the candle." 4. No, the food is probably to blame for the diseased bees. 5. Mr. W. J. Sheppard, King's Head Hill, Chingford.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. (Quorn).—*Starting Bee-keeping.*—We advise beginning with a natural swarm of the native or ordinary bee. The Ligurian or other foreign races may be left till a little experience is gained.

R. B. (Grosmont, Yorks).—*Prizes at Shows.*—The difficulty in the arrangement you propose is the number of volumes that would be required, seeing that every show in the kingdom would have an equal claim on us. The matter has been already considered, and it was found impracticable in consequence of what we have named above.

DUSTY MILLER (Boston).—*Honey Samples.*—1. Apart from its having begun to ferment, the honey is very fair in quality. No doubt the "damp place" has tended to set up fermentation. If heated to about 150 or 180 deg. Fahr. and the scum removed, it will be safe for your own table use.

SLIEVE DONARD (Ireland)—*The "W.B.C." Section-Box.*—We cannot pretend to give you full instructions for making this appliance. So much depends on its being accurately made—so far as regards its efficiency in working—that you should get a good pattern-box to show what is needed.

L. Q. (I. of Man).—*Working for Comb-Honey.*—Beyond the "ordinary section-rack," which you already use, there is only the "W.B.C." section-box among the appliances in what you term "the most popular and best methods of working" for sections. The dividers in the "box" referred to are of wood and are attached to the frame in which the sections hang, so that in working the hanging-frame is handled just as a shallow-frame without any tumbling about of separate and loose dividers.

*** *Some Letters and Queries are unavoidably held over till next week.*

Editorial, Notices, &c.

CHESHIRE B.K.A.

ANNUAL MEETING.

The annual meeting was held in Chester on Monday, February 11, 1901. There was a moderate attendance of members under the chairmanship of the Rev. J. F. Buckler, M.A. The report and balance-sheet, which had been previously circulated, were adopted. The Association was shown to be in a prosperous financial condition, while the number of members was stated to be the same as in the previous year (323). The expert (Mr. J. Gray) examined 1,638 stocks, 1,500 being in frame-hives and 138 in skeps, as compared with 1,359 in 1899. The number of diseased stocks showed a reduction of forty-four. Six members had gained 3rd Class Experts' Certificates. Shows had been held at Congleton and Birkenhead in connection with the Cheshire and the Birkenhead and Wirral Agricultural Societies.

His Grace the Duke of Westminster was re-elected President of the Association. The Vice-presidents were also re-elected, and the following appointments were made:—Committee:—Rev. J. F. Buckler, chairman; Revs. T. J Evans and E. A. Hutton; Messrs. Bally, Bell, Bradburn, Cotterill, Hinde, Lambert, Little, Lawson, Lynch, Wynne, Forde, and Denson; hon. treasurer, Mr. T. D. Schofield; hon. secretary, Rev. E. Charley; hon. librarian, Mr. F. H. Taylor; hon. auditor, Mr. J. Tonge.

It was decided to engage an additional expert for a spring tour in order that all members of the Association might receive a visit early in the season.—(*Communicated.*)

WORCESTERSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of this Association was held at the Guildhall, Worcester, on the 26th ult. The Rev. Canon Coventry presided, and there were also present:—Rev. J. B. Wilson, Rev. E. Davenport, Messrs. L. Higley, W. H. Hooper, W. W. Hunt, E. A. Millward, T. Huband, J. P. Phillips, W. E. Hyde, H. Dickinson, treasurer, A. R. Moreton, G. Richings, P. Leigh, and C. M. Watson, hon. secretary. Apologies were received from Lord Coventry, Mr. A. Baldwin, M.P., and Miss Vaughan.

The annual report stated that after being in a state of collapse the Association had recovered energy. The county had been divided into districts, and district secretaries and experts appointed, and as a result of good work by these officials the membership had been raised to ninety-five.

The treasurer's accounts showed that the receipts and expenditure for the year showed a small balance of 9s. 8d. on the debit side.

The report and balance-sheet having been passed, Lord Coventry was re-elected president. The vice-presidents were re-elected, with the addition of the Rev. J. B. Wilson and Canon Coventry. Mr. Watson was re-elected secretary, Mr. Dickinson treasurer, and Mr. Phillips assistant secretary.

The chairman presented prizes won by members of the Association and presented by the British Bee-keepers' Association. These were Mr. E. A. Milward (silver medal), Mr. W. E. Hyde (bronze medal), and Mr. W. W. Hunt (certificate of merit).

A vote of thanks to the chairman concluded the meeting.—(*Communicated.*)

DRIFFIELD AND DISTRICT B.K.A.

ANNUAL MEETING.

The third annual meeting of the Driffield and District Bee-keepers' Association was held at the Coffee House, Driffield, Mr. J. W. Watson being in the chair. The report and balance-sheet was read before a good many members. Steady progress was reported, and the membership had increased. A small balance remained in hand. Mr. Harrison Holt, J.P., was re-elected president; Mr. J. W. Watson was appointed treasurer; Mr. W. E. Richardson secretary.—(*Communicated.*)

REVIEWS OF FOREIGN BEE-PAPERS

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Deutsche Illustrierte Bienenzeitung (Germany)—*The Poison of the Honey Bee and Formic Acid.*—A doctor writes:—"The inflammation and other unpleasant symptoms which usually appear after a bee sting are often attributed to that sharp acid so widely distributed in the animal kingdom and known under the name of formic acid. This fluid, however, has nothing to do with the swellings; its utility to the bees is of quite another character. Professor Joseph Langer, of Prague, a little while ago, examined the contents of the poison 'glands' of 25,000 bees. This he found to be a clear fluid, soluble in water, tastes bitter, and has a pleasant aromatic smell, which, however, soon passes away; this scent cannot therefore be the poison. The formic acid which gives its peculiar acid reaction to the contents of the gland is also very evanescent. The contents of the 'gland' itself retain their poisonous properties, however, even when dried and subjected to heat. The poison is, we therefore suppose, a vegetable base, an alkaloid, as the most active poisons in the vegetable kingdom are known to be.

"Professor Langer proved that the poison has no effect whatever on a healthy skin; if, however, injected under the skin, all the

symptoms of bee stings set in ; should it reach the larger veins or arteries it causes a general disorder of the system which reminds one of snake poisoning. The weight of the poison injected into the wound made by a bee's sting is between $\frac{1}{10000}$th and $\frac{3}{10000}$th part of a gramme. The largest part of this is formic acid, which is such an important factor for the well-being of the bees. This works as a means of preserving the honey owing to its acid reaction. The bee allows a little formic acid to fall into each cell filled with honey before it is closed or sealed, and this small quantity is enough to prevent fermentation. Honey extracted from unsealed combs never keep long, unless 0·1 per cent. formic acid be added, which is all that is required."

It may be added that the above-named author does not think—like so many others—that bees necessarily die after stinging, but only in case of their being knocked off with the hand or otherwise killed.

L'Apicolture (Italy) gives a wonderful account of the mildness of Christmas Day last, when the bees were flying under a splendid sun in a perfectly calm atmosphere and trying to find in some late flowerets of rosemary the honey which was certainly not there. Flowers at Christmas, bees on the wing, temperature at 25 deg. C. in the sun are things not to be seen every year.

Leipziger Bienen-Zeitung (Germany).—E. Gross gives the following account *re* killing of queens :—"I have often read in bee journals that there are doubts among bee-keepers as to whether the queen of a hive that has swarmed undertakes *herself* the killing of her rivals, or if the bees make themselves responsible for the removal of the superfluous queens. On June 26th of this year a Carniolan stock swarmed for the third time. About two hours after a loud buzz of drones arose around the parent hive. Making a closer inspection I perceived a queen bee on the alighting board, and I thought perhaps she had just made her wedding trip. This idea, however, was not correct, for at the same moment another queen came out of the hive, who rushed on her sister-queen and inflicted two stings, bending back her abdomen like a working bee does when she stings. The attacked queen remained perfectly quiet and offered no resistance. After the deed the murderess returned to her dwelling, the stung queen slowly following."

L'Apiculteur (France).—*Melipona fulvipes.*—M. Leon Diguet has presented to the Museum of Natural History a nest of *Melipona fulvipes* which he took on the temperate plateaus of Mexico. This nest was found in an old stump, which was sawn below and above the combs, and for careful transportation placed horizontally in a box, firmly fixed and covered with wire gauze. The melipones bore their journey very well, and the only trouble which threatened was from the Mexican Customs authorities, who, fearing yellow fever, were most anxious to disinfect them at Vera Cruz.

Every day the bees left the nest to explore their narrow dwelling, and gladly fed on the syrup laid on their gauze lid ; and about five in the evening they returned to their nest, and, after buzzing actively for a while, they remained perfectly quiet for the night. On arrival at the end of their long journey they were placed in the laboratory of the Museum and given their liberty, but many dashed against the windows, and the numbers were seriously diminished. The next day they were allowed to fly abroad ; they fled in wide semicircles, larger and larger, with their heads directed towards their nest, as the nest-making *Hymenoptera* of our country do. They flew in and out, and returned at night.

Two days after they were placed in the camelia-house, near to the great palm-house, not far from the glass. They did not come out much, nor were they attracted by the honey placed for them, unless laid close to their hole of exit. They sometimes worked the flowers in the glass houses. Since this was written, October 12, in consequence of the dull, rainy weather the melipones have been conveyed to the palm-house, where they mostly continued in a torpid condition, so that I feared they had succumbed ; but they have been heard to buzz on fine days. It is therefore most probable that they—ardent lovers of warmth and sunlight—hybernate during the darker winter period, notwithstanding the comparatively high temperature of the palm-house in which they have been placed.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

SIZE OF SECTIONS.

(*Continued from page* 53.)

[4254.] It remains for me now to reply to those who have so kindly joined in the discussion.

Our friend in the far North ("D. M. M.," Banff, 4216) is quite satisfied with "the two bee-way first-grade snow-white basswood 4¼ in. by 4¼ in. by 2 in. section."

As to the *colour* of the prospective section, let me assure him that no one has any idea of adopting one of mahogany or any other coloured wood, and I believe the American manufacturers have plenty of excellent lumber to satisfy the most exacting taste.

Not only shall we procure the best polished section, but what is more, when a section is worked more quickly the consumer will also

have a better chance of admiring its snowy whiteness than he has at present. But perhaps I have said too much, and even the soiled section has some advantage. For what do Messrs. Root & Co. say? "Choice honey shows off to best advantage in a section not too white, as it is the honey rather than the wood that the consumer looks at."

I am sorry our friend's experience with narrower sections has been so unfortunate, but until he gives some details—such as size of section, years of trial, what foundation used. whether hung or otherwise—how can we discover wherein the fault lay?

I however congratulate Banff in possessing such a successful bee-man. If the five racks in which the bees work actively at one time yield in most seasons a good proportion of completed sections, even Mr. Woodley with his two racks at a time must be contented to take a back seat.

But this I must say, that when we are in search of a better section—we are legislating not only for the ninety-and-nine, but also for the hundredth—it will give the most successful individual a lift. If he can now work five racks, he might then attempt six or seven.

With reference to larger frames than the standard, I did not advocate them, but only expressed the desire of some to see the reports of those who have tried them, as we have had reports of some who have tried sizes smaller than the standard. I cannot think this is unreasonable when we consider the latest advances in apiculture.

At any rate, such expressions as "Any need for a larger frame has not been demonstrated," and "Let me nail my contention to the mast. Is it not a fact that all the largest returns recorded for years have been the result of working with the standard frames?" are at present out of place. They may sound well; but to me they will have no meaning until there has been a good discussion on the subject, or, at least, a fair field offered to both sides. No, the time is not ripe to form a decision. But I do think, when a champion writes so stoutly, it is quite a fit time for him to put aside his modesty as regards signature and to give us his full name, so that we may have the pleasure of knowing him.

With Mr. W. Loveday (4219) I thoroughly agree when he says "we can only do our best" (that is just what I am trying to do), and "I dare say our bee-keepers will get the adopted receptacle to as high a standard of finish as possible." But I can tell him who will not do it—those who imagine the present section for comb-honey is satisfactory for all purposes, or that it "cannot be beaten," and who, when they see imperfections, give way to fatalism and despair or—shall we say?—fold their hands and exclaim, in a spirit of sublime resignation, "But is it not so with everything else?"

There is very little in the objection to excess of wax in the new section. We would have to inform our customers that the 1¼-in. comb is of a fair thickness, and being worked out quickly, the wax would be the finest quality and superior to the old section, in which it is frequently tough and tarnished; it ought, therefore, to be more palatable.

In another article (4226) Mr. Loveday quotes my question about "extra thick combs" quite correctly, and then goes on to tell us that thick combs are used for storing honey, and thus wastes his strength in beating the air, because no one disputes it.

His case, however, of a small bell-glass does not help us much, because another and probably a better reason may be given for their conduct. They lengthened the cells of the one comb because they disliked to attach another comb to the glass. I have observed bees similarly situated work upwards from the brood-nest instead of working down from the glass; from which I concluded that bees are averse to working from the glass.

Mr. Atchley's illustration I regard a fair one to show what the bees prefer even when guided with full sheets spaced for the production of extra thick combs. This is from the bees' point of view. On the other hand, when Mr. Loveday (page 66) speaks of doing "the right thing in the wrong way," he takes the bee-keeper's point of view, *i.e.*, how the bees can be compelled to do as he wishes.

Next comes Mr. Homersham (4234), who misses the point of the argument by not noticing the conditions I laid down.

We work on a high-pressure system, giving the bees only so much super-room as they can occupy so that the internal heat is well maintained. In such a super it would be instructive to see how thick the combs would be if the bees started then as they pleased. I would not be surprised at anything the bees did in a hive in which they were allowed to roam into the roof or behind the brood-nest; for their work would vary according to the strength of the colouring, according to the exposure—to the sun, to cold winds, and cool nights. His illustration confirms my experience that where bees have unlimited space they are more inclined to lengthen the cells, but where the space is limited they prefer to build more and thinner combs.

I am glad Mr. W. McNally (4241) has taken part in the discussion, as his remarks are generally worthy of careful attention.

But I think he lays too much stress on the loss of honey in sections being so much due to dividers. Some say that from a stock which would give 100 lb. of extracted honey we must expect only sixty 1-lb. sections. But supposing the leakage were only 30 lb., I would hold the dividers responsible for about 10 lb. of it, and would estimate that 20 lb. were lost by the use of such a thick section. And it is by studying the work of bees in frames variously spaced season after season, and noticing the indifferent work done in those frames which were more widely spaced, that the conviction

has been forced upon me that the great defect of our present section is its extra thickness. Thus the frames have guided me to the suitable width for sections.

I would remind Mr. McNally that the Renfrewshire Stewarton—or improved Stewarton—retained the 1½-in. width for end and super comb bars as the most suitable for honey storage (B.B.J., vol. xv., page 306).

He will, I am sure, pardon me if I say that we are now better equipped than when the trials were previously made. The narrow 4¼ by 4¼ were tried chiefly in 1887 and 1888. In the former year, in some places, the harvest, though good, was very short, and 1888 was the worst season we can remember.

Moreover, sections holding less than 1 lb. were not likely to make much headway—the foundation was not then so reliable, the sections had not the advantage of being hung, nor was the principle of the "fence" thought of; so that if the narrow section tried before was found wanting, surely in our present position we may hope for better success.

I have now the pleasure of returning to Mr. Woodley again. In article (4215), I think he places himself in an awkward corner. He gives as an excuse for so many ill-finished sections our fickle seasons and varied forage, and then refers to America as a model country for producing honey-comb. But are the Americans satisfied with the 2-in. section? No, just the contrary. Mr. W. himself says the Danzenbaker hive and sections are apparently making some headway; and Mr. Sladen said last week, "None of the combs in the sections (three standard sizes) in regular use in America are as thick as ours."

The question then before us is this:—If the Americans, with their advantages of regular climate and vast tracts of bee-forage, are not in favour of the 2-in. sections, is it not time for us, with our disadvantages, to wake up and see how they can be overcome?

The discouragement of producing honey-comb is so wide and deep, that half measures, such as the use of the "W.B.C." frames, will not do; we must face the difficulty and deal with it thoroughly. And I see no other course which promises so much success as the change to a different section.

Now for particulars:—Mr. W. thinks that a section 5 by 4 by 1½ is too large. Well, perhaps it is; but I would rather give the consumer an ounce or two more than a pound than less, and we could afford to do so with a better section.

Then, as to dividers. I admit that the majority of bee-keepers are for retaining them, and we cannot recommend ordinary bee-keepers to do without them; but I think the principle of the "fence," when it is applied to shallow-frames, will probably solve the difficulty.

On the other hand, I believe that specialists could sometimes produce more honey-comb without them.

At the Yorkshire Show at Dewsbury some friends assisted me in showing the process of extracting to the public. Most of the frames we handled on that occasion were so perfectly even that I was asked whether I had used separators.

"Amateur Expert" wrote about the sections in the Canadian Exhibit of 1886, most of which were taken without separators, that "they were as good as eye could wish to look upon." Again, Mr. R. McKenzie wrote: "Satisfactorily-finished sections may be obtained by a skilful manipulator when favoured with a good locality and a rapid honey flow."

I understand that some narrow sections worked by means of "fences" were shown at the Confectioners' Exhibition. Will some good friends who noticed them kindly tell us what they thought of them?

Being a novelty, I half expected our worthy Junior Editor would have ere now given us his opinion respecting them.

Mr. W. (4248) does not understand how my expression, "Ten ploughs can turn up a field quicker than eight," applies to work in sections. Well, it is true, ploughing a field does not make it more full; but the work of turning over the soil has to be done all over the field. If ten ploughs, then, are available instead of eight, each can be allotted a narrower strip of ground to work up, and the task would be got through sooner. So, when a super has ten frames instead of eight, or twenty-four sections instead of twenty-one, the work of filling the narrower spaces with comb should be done more rapidly.

Mr. W. says he has removed with the present sections just such full supers as I suggested might be secured by narrower sections. I do not doubt it, but affirm that he would have the pleasure of repeating the process more frequently with a more suitable section.

Yes, extra wax would be required for sealing the more sections we place in supers; but that is a mere bagatelle. If, as I maintain, they would be taken to sooner, and the honey ripened earlier, there would be plenty of time for them to be sealed throughout, long before the wider sections could be.

With respect to the exact average thickness of natural honey-comb, I am afraid we must agree to differ, as no one, as far as I know, has attempted to fix it. Perhaps it is impossible to do so, for in "Outlines of Bee-keeping" (B.B.J., vol. xv., page 180) beginners are truly told that "cells (both brood and drone) for storing honey vary greatly in length." All that we can, then, do is to determine the size which will give the best results in our climate.

I do not think there are many in Yorkshire so foolish as to put on three racks of sections at a time when their stocks are at the moors.

I regret being unable to refer to Mr. Sladen's refreshing paper, but I hope to do so next week, when I must also conclude.—RICHARD M. LAMB, *February* 16.

ANCIENT BEE-BOOKS.

"A Treatise concerning the right use and ordering of Bees: Newlie made and set forth, according to the Author's owne experience: (which by any heretofore hath not been done) By Edward Southerne, Gent (Better late than never).

"Imprinted at London by Thomas Orwin for Thomas Woodcocke, dwelling in Paule's Churchyard at the Signe of the Black Beare, 1593."

[Under "Better late than never" is a shield showing two hands joined and the letters or word TO above them. Motto:—By peace plenty, By wisdom peace.]

[4255.] The claim of originality made by Southerne in his title, and re-asserted later on, has never, I believe, been disputed. "Mr. Southerne brake the ice," says Samuel Purchas. Levett, too, in his "Ordering of Bees," published in 1634, but apparently after much delay, has much to say in our author's praise. The bright little book before us is a well-printed 4to in seventeen pages, mostly in black letter. It is very scarce, and, as no notice of it beyond a casual allusion has ever appeared in the B.B.J., or, as far as is known to me, elsewhere, I propose, if our editors will grant me space, to describe it in detail. It is thus dedicated: "To the right Worshipfull Mistress Margaret Astley, wife to John Astley Esquier, Master and Treasurer of her Majesties" (Henrietta Maria, wife of Charles I.) "Jewels and Plate, and Gentleman of her Highnesse Privie Chamber, all health and prosperitie, with eternall felicite."

The following is from the Epistle Dedicatorie: "Though I doe not denie but long agoe many wise men have very learnedly written of the nature of Bees; and Virgil in his Bucholicks hath given us reasonable directions as any before him or since; and yet neither he nor they, no more than they did imagine by naturall reason, as within these fourteene yeares I have fully prooved."

In view of this last extract, it will surprise my readers to learn that Southerne did not believe in the existence of any "master bee." That he should not have credited the hive with a queen is not to be wondered at, as in that respect he merely shared the want of enlightenment of his predecessors. We should do ill to laugh at them; rather should we admire that, with the means available, they found out so much. But that Southerne, well versed as he was in the routine of practical bee-keeping, should have failed to take note of the peculiarities which distinguish a queen, may be almost called astounding. Levett remarks on it with surprise. Pliny, Columella, and nearly all the old classical writers, including Virgil, were agreed as to the presence of a monarch, and their accurate description of the king's appearance were to Southerne's hand in the despised pages of "T. H Londoner." It would seem that either Southerne's vision was imperfect, or that he was the victim of a too fixed determination to be original. He argues thus: "Of drones drones are bred, and other bees accordingly, and that I am assured of. . . . But when there is a swarm rising, whether it be in the forenoone or afternoone, there wil divers Drones go with them, and I verily thinke that the swarmes are rather led by those Drones, than one particular master bee, as some fancy; for if there should be a master bee to go forth with the swarme, who shall rule the olde stocke? Then thou wilt say, there is a Master Bee for the stocke, and another for the swarme, then it is not likely there is a king: for that love and principalitie like no equalitie, therefore not two kings; but I say, nor king nor master, but certaine leaders, and so thou must say or else deceive thyself, or do wilfully think there be many masters in one hive, for I have seen four swarmes come out of one hive: so by this I think thou wilt say with me, there be many leaders and no one master."

Southerne's hives were to be made of straw or twigs, of about half-bushel size. He did not think larger hives profitable. The inside was to be made smooth beforehand, otherwise the bees "will of themselves be so long in their manner in scratching and biting away such paltrie, that they might have filled halfe the Hive with waxe and honey in that space, if it were done for them"—a piece of advice that seems to me very sensible.

Could anything be sounder in the main than the following advice: Avoid noise of any kind, "especially of bels, hewing of timber, or other great noyses whatsoever, for that they will in nowise prosper but decay, especially in winter time where there is such noyse; for you are to note that in winter time sleepe doth bees as much good as their meate, because in Sommer they never sleepe, and so long as they sleepe they desire not to eate, which they would being always awake, which maketh them hungrie, and they would not awake once in three or foure daies were it not for the noyse."

He did not, as we have seen, advocate killing the drones. "The bees themselves will kill so many as they think good . . . and this they have alwaies done, and so will ever continue as occasion serveth, without Master Hil's advice."

From the preface:—"But thou wilt say (I marie) I would like well to have Honey and Waxe, but I like not the stinging of Bees, how shall we doe for that matter? Wilt thou know? First there is no commoditie, in regard of wordly wealth, but hath some discommoditie. The marchant before he obtaine his desire doth adventure life and goods; and it is reason the cat should wet her feete if she will eate any fish. Well (say you) then of necessitie we must be stung. I say no: for if thou use them according to the directions hereafter mentioned, thou needest not feare stinging."

In swarming time you were not to "keep a stirre and lay on with a Bason, Kettle, or Frying pan." It made the bees "angrie, and go further to settle. . . . I do assure thee, thy life for mine, that at such time they will

not sting. Goe orderly to them, and thou shalt finde them gentle as sheepe. Yet if by chance thou shouldst be stung at one time or other, it would hurt neither life nor limme I warrant thee; and for to stint the paine, which is but momentarie, take but a sage leafe, cabbage leafe, or piece of a docke leafe, and rub it; it will soon cease."

If two swarms came out together, a sheet was to be hung before one hive, and the other held up to hasten out the bees. As soon as half had settled you were to "pop them into a Hive, and carry them into a corner a good way off, and though it were halfe a mile their fellows would find them."

"That two swarmes will not be parted.—This sometime (in my father's daies) through my negligence I have proved, and have been cudgelled afterward for my labour: although I knowe some that will face it out with oathes that they will be easily parted: but how untruly they speake, I desire no better witnesses than their own conscience. I remember a place in Worcestershire within the Vale of Evesham, called Honeyborne, where dwelt an old Vickar which tooke great pleasure in Bees, and they triple requited his curtesie at his own commaund. On a time there came to him two of his neighbours with cap in hand and a low curtsie, desiring Master Vickar to give each of them a swarme of Bees: he seeing himself so gently intreated, graunted their requests, and promised them very shortly to perform it. Within a weeke after it fortuned the Vickar had two swarmes rose and settled together. He with his skill parted them, and put them into two hives, and in the evening sent for the two men his neighbours, who dwelt a mile asunder, and gave them their swarmes: on the next morning about eight o'clock one of the poore men's daughters going into the garden to see their new Bees, perceived them very busie about the Hive, ran in and told her father their newe Bees were a swarming: with that the good man comming to looke, found his Bees readie to bid him farewell, and so they did. He followed them, and they brought him to the other man's house and into the garden, where they all went into those Bees from whence they were parted the day before: upon this the two poore men fell out, knowing not the cause of the matter. Quoth one, what a spitefull malitious knave are thou to bring thy Bees to kill mine, because thou mightest not have all. Nay, quoth the other, folkes say thy wife is a Witch, and so I am sure she is, for she hath bewitched my Bees to thine, because thou wouldst have all. When Master Vickar he was made acquainted with their brawles, he knowing whereof the matter proceeded, gave him that lost his Bees another swarme, and so ended the matter between them. Thus you see, though they were parted for one whole night, and were carried a mile asunder, yet they came together: therefore, at such a time of necessitie, who would not be glad to prevent such an inconvenience, which can be done none otherwise than as before I have showed."

So bees were always bees; after a lapse of some three centuries their ways remain much the same. The homely incident might have happened last summer in some English village, and we should have read the worthy vicar's account of it in these columns without amazement.

The following method for inducing swarms to remain in their hiving skep possesses such small fascination for modern bee-keepers, or, one would have thought, for bees, whether ancient or modern, that I should have passed it over, were it not that Butler and later writers, to all appearance practical men, advocate the same treatment without acknowledgment to Southerne, of whose book, indeed, Butler never makes mention:—"But if your Bees be so froward that they will not tarrie in any hive, put therein two handfuls of Barley or Pease, but Mault is the best if you have it, and let a Pigge eat it, turning the hive with your hands as he eateth that the froth which he maketh in eating may remaine in the hive, then wipe the hive againe lightly with an old cloath, and so the Bees being put in they will abide without further trouble."

Southerne did not approve of driving bees because of the loss of brood and incitement to robbery, while bees would not work "in an empty house." If done at all it should be at midsummer. Feeding led to waste of honey and made bees lazy. But they were to be kept "strong and lustie," and to ensure this "smoke them with a groateworth of Olibanum about the latter ende of March if you perceive your bees to be faint." Olibanum is an aromatic resin, and probably a disinfectant.

At Bartholomewtide you were to lift the hive, sweep the floorboard, and narrow the entrance to prevent robbing. Lift again in March and clean the floorboard and let stand till April, when widen the entrance. "The signe to know when the Bees will swarme is a noyse as it were the sound of a little bugle horne."

"Thus hast thou (gentle reader) in briefe, the effects (whereof) if thou put in practise shall turne thee to a large benefite, alwaies provided that thou have care in performing that which to thee belongeth: and one thing especially I am to put thee in minde of, that is, to pay thy tythes of thy profites in Bees truely, although in most places they hold they are not tythable because they cannot be tolde. And indeed I think Bees will hardly be profitable to the Parson if he should have but the tenth Bee: but the tenth part of the money which thou takest for thy sale of Bees, and the tenth part of the Honey and Ware which thou takest thy selfe, in conscience is due to the Parson: and this if thou pay truly will accordingly be accepted. Yet I remember once there was a Gentleman, a very friend of mine, which had got store of bees, unto whom

the parson (who yet liveth, and I feare is one of Martin Malaperts house) came and demanded tythe of Bees. Tythe Bees (quoth the Gentleman) I never yet payd any, neither is it the custome in this Parish, and I am loth to be the first that shall bring it up, and yet I am very willing to pay my due; Honey, Honey and Waxe you shall have with all my heart, but Bees cannot be told, therefore how shall I pay them. Told or told not (quoth the Parson) or due or due not, I will have the tenth swarme, and you were best bring them home to my house. Why, then I might deceive you (quoth the Gentleman) and bring you a Castling, or an after swarme for a whole swarme. Well (quoth the Parson) the Honey and Waxe shall make amendes for that. But you can never have profite of those Bees if they be castlings (quoth the Gentleman) which I bring you. It is no matter for that (quoth the Parson) bring them to me, I pray you. Well it shall be done (quoth the Gentleman). It fortuned within two daies the Gentleman had a great swarme, the which he put into a hive, and towards night carried them home to the Parson's house. The Parson with his wife and familie he found at supper in a faire hall: the gentleman saluted them, and told the Parson he had brought him some Bees. I mary (quoth the Parson) this is neighbourly done; I pray you carry them into my garden. Nay, by my troth (quoth the Gentleman) I will leave them even here. With that he gave the hive a great knocke against the ground, and all the Bees fell out: some stung the Parson, some his wife, and some his children and familie, and out they ran as fast as they could into a chamber, and well was he could make shift for himself, leaving their meate upon the table in the hall. The Gentleman went home, carrying his empty hive with him. On the next morning the Bees were found in a quickset hedge by a poore man, who since hath had good profite of them, and is yet living. Within foure daies after the Gentleman was cited to appeare before the Ordinary: who when he came, demanded why he had used the Parson after that manner. Why Sir (quoth the Gentleman) I have not misused him to my knowledge. No (quoth the Parson) did you not make your Bees sting me and all my folkes? Not I (quoth the Gentleman) but you would needes have a swarme of Bees, the which I brought you home according to your owne request, and left in your hall, and since I saw them not. I but (quoth the Ordinary) why did you not let them alone in the hive? So I would (quoth the Gentleman) if they had been in mine owne garden. Why did you not let the Parson have the hive (quoth the Ordinary)? I could not spare it (quoth the Gentleman) for I bought my hive in the market, and I am sure, covetous as he is, he can have no tythe of that which I buy in the market, according to the English lawes: but I did by his Bees as he willed me, and as I have done by all his other tythes, which I have ever left in his hall, and so I did these, and yet there was no Bees ever demanded for tythes in our Parish till now; and besides, the statute for tythes in this case provided is on my side; but Honey, Honey and Waxe he shall have with a good will. And that is not much amiss (quoth the Ordinary): so noting the circumstances of every cause, gave sentence that both of them should stand to their own charges—So they were contented, and afterwards became friends; and if they doe not well, I pray God we may."

Here take we leave of that right merrie gentleman, and goode Bee-keeper, Edmund Southerne, the first of our Old Masters. Of his life or circumstances I regret to know nothing. He was probably the son of a Worcestershire squire. I have only to add, that the copy of his book from which these extracts were taken is in the British Museum. It is some five years since I took them, for the edification of my fellow bee-keepers.—SOUTH DEVON ENTHUSIAST.

PREVENTING SWARMING.

[4256.] Referring to the letter of "A. H.," Woburn Sands (4245, page 56), giving details of his plan for preventing swarming. I follow him all right to "placing a box of four shallow-frames over the brood-box with dummies on each side." But will he kindly say what is to be done to the spaces outside the dummies? and are the brood-frames below these spaces to be covered up, "leaving a bee-space above the brood-frames"—where? Below the four shallow-frames, or all along?

There is always bee-space between brood frames and boxes containing shallow-frames. If the bees are not prevented from getting into the spaces outside dummies, will not they build comb there? And will not a board be required all along the top of shallow-frame box, with quilts over to keep warmth in? Your correspondent next mentions (2) "porous quilts"—should these be of any particular material? I use carpet. I presume queen-excluder is placed over brood-frames.—S. E., *Sandhurst, Kent, February* 10.

ENTOMOLOGY AND BEE-KEEPING.

[4257.] In reply to your correspondent "E. D. T." (4247, page 57), I regret to say that only a small percentage of entomologists are hymenopterists. There are thousands of ardent butterfly and moth hunters, but those who really make a study of our native ants, bees, and wasps can still almost be counted upon one's fingers. Their numbers, however, are increasing, and this is not to be wondered at, for the life-histories and habits of the hymenoptera are much more diverse and interesting than those of the lepidoptera, and there

is a greater chance of coming across little-known and even new species than in the latter order.

It certainly is remarkable that only comparatively few working entomologists are bee-keepers, but what I think more extraordinary is that it is such a rare thing to find a bee-keeper who knows anything about entomology, especially about the order which most concerns him—the hymenopteræ. Many people seem to think that it is impossible for illiterate people and those who have very little leisure to take an interest in entomology. I can only say that this is a great mistake. Every bee-keeper would find both interest and profit in the study of wild bees. He would handle his bees more intelligently, with the result that he would have less losses and greater and better returns, and, in addition, he would find a fresh interest and attraction in country life. This has been my experience. The bee-keeper's neglect of entomology would be more easily comprehended if the wild bees were scarce insects, but in their abundance they are constantly presenting themselves before our eyes as we watch our honey-bees at work—turn where we will throughout the spring and summer.—F. W. L. SLADEN, *Ripple Court, Dover.*

LECTURES ON BEE-KEEPING.

[4258.] Like Mr. G. A. Barnes (4243, page 56), I, too, am a dweller in the country, and am familiar with country life in all its aspects. I also know from a wide experience how difficult it is to get even the young people to leave the fireside on a winter's evening to attend a lantern lecture on any subject. I have seen an audience of five turn up to a lecture on bees; have known lectures on horticulture abandoned because no audience whatever presented itself; lectures on agriculture attended by some half-dozen people, and those not interested in farming. Poultry lectures, perhaps, are better attended than any because everybody nowadays keeps fowls and wants to know how to make them lay. It is true now and again good audiences present themselves and their presence puts life and "go" into the lecturer, but the difficulty certainly lies, not in getting lantern lectures but in getting the people to attend them. But this is by the way, my main object in writing is to protest against a written lecture, or "copious notes," being put into the hands of any one who is not practically and theoretically master of the subject. I know from personal experience how often the harm done by such "lecturers" more than counterbalances the good. Neither is it fair to those who (as well as being practical bee-keepers) have made a special study of the subject and with some trouble and expense have qualified themselves to lecture without "copious" or, in fact, any notes, and to answer the many questions often put to lecturers.—GEO. FRANKLIN, *Kenilworth.*

BEE "HAPPENINGS."

[4259.] As a subscriber I regularly look forward to the weekly arrival of your JOURNAL, and read its contents with much interest, and when endeavouring to improve my mind on any bee matter, I can almost always satisfy myself on any point by reference to the index of one or more of your annual volumes. There are, however, a few minor matters not quite clear to me, but which, I doubt not, you can explain, and I therefore ask:—1. How is it that swarms, whether natural or artificial, so soon acquire a different odour from that of the old stock? I have found that even a strong driven lot of bees, divided and placed in new hives, furnished with combs from any one hive, in a few days seem to regard each other as enemies. It is no doubt a wise ordering of Providence, but I notice that you are nearly always able to explain the cause of such curious happenings.

Bee-houses.—I have a few stocks in frame-hives set up in a loft over part of my stable. Each stock has its separate entrance through a hole in the wall. This keeps the bees dry, and they are not much affected by the weather. My stable is in the midst of a country town, and we have very little garden room, while the place where the bees are kept is surrounded with houses. The loft is therefore convenient, as it enables me to manipulate the hives unobserved by my neighbours. The bees also seem to have done very well there, but the drawback lies in the fact of there being only one window, and when I am lifting out the frames for examination a good number of the bees fly off and escape through the window. Not only so but after getting outside they do not fly round to their own hive entrance. They seem to continue flying in at the window. If I darken the window I of course shut out the daylight needed for examination. I have seen among your illustrations in last year's volume a picture of a bee-house with a number of hives set one above the other in a double row, and the owner explains that in manipulating the bees that fly off pass out through the windows and return by their proper entrance, but mine fail to do this. It may be that this is because there are a number of windows in the house referred to, and the place is very light. 2. Can you or some of your readers kindly assist me?

Bees in Greenhouses.—I have four stocks in a greenhouse. I had not seen your printed disapproval of this to a correspondent until after the hives were located there. I thought I should save outer cases, roofs, &c., by so doing, but I now know by experience that keeping bees in greenhouses is worse than a nuisance. In cold weather when the sun shines brightly for half an hour the heat induces the bees to fly, and they find it too cold outside, so that they become chilled before they can reach the hive again, thus causing a heavy loss. In consequence they will be

removed from greenhouse at first possible chance, and I warn other beginners to profit by your advice and my experience.

Moving Bees in Skeps.—A short time ago a labourer, leaving the neighbourhood, begged me to purchase his three skeps of bees, and said his brother, "who had managed bees all his life," would bring them to my house (about three miles away). I bought them, but I said I preferred to send some one who understood packing for removal, but before I could send, the bee-man (?) brought them. They were properly inverted, as you recommend, but the cloth was tied near the top of skep instead of the bottom. There were no sticks through to steady the combs. He carried the skeps, tied together, over his shoulder more than half a mile, then put them in a jolting cart for remainder of the journey. You can well imagine the disastrous result, and the confused mass of dead bees, comb, honey, &c., with which I had to contend on arrival.

Holding as I do a public appointment, I get my share of the worries usually attached to public offices, but when matters more trying than usual occur, I take the first chance of spending an hour "among the bees," and find it quickly allays the troubled mind. Fortunately, I have working under me a man who has served in the Royal Horse Artillery, and who has been for years a constant reader of your journal, and is a highly intelligent bee-keeper. When I need any help with my bees he is always ready to assist and give advice. He himself has a cottage and garden in the country, and during the honey-flow his bees have twenty acres or more of white clover in the field adjoining, besides a plantation of lime trees, sycamores, &c. His cottage is constructed with clay walls and is covered with thatch, and when there last summer I was much interested in the wild bees which had burrowed into the walls and made their home there. There were numerous varieties, of different colour and size, and having read in your journal a description of some of these, I imagined what an interesting half hour the writer of the articles mentioned would have had in securing a collection of so many kinds.—EAST DORSET, *February* 6.

[1. It is not possible to define the power by which bees recognise each other, any more than we can explain how it is that, amid thousands of human faces, all possessing the same features in common, we can so readily distinguish those known to us; the power is there, but in what it consists—beyond that of instinct—we know not. 2 We rather think the bees that "continue to fly in at the window" are not those which have taken wing from combs under examination. It is quite the rule for bees to return at once to their own hive entrance. With regard to the bees in greenhouse, you will do well to remove them outside at the earliest opportunity.—EDS.]

Echoes from the Hives.

South Devon, February 12.—My bees were flying strong and carrying in pollen on Christmas-eve last, and again on January 8 of this year, after three or four days of frost and snow. Judging by appearances, I should think they are very strong. On the 8th of the present month the bees were again flying in great numbers, but I have not had the temerity to look inside any of the hives yet, such as enabled your correspondent, W. Scurrah, to report, on page 58, having found some sealed brood on January 12. I gave a large cake of candy to each of my stocks in the autumn, and I find they have still some left. After keeping bees for some eight or nine years, I have never kept an account of what profit they have yielded so far, but I find them a source of great pleasure to me in spare hours. I make my own hives, and have tried the "Wells" pattern, but do not think it advisable to work two stocks under one roof, as it disturbs both lots each time an examination is made; besides, the hives are too big to handle. I can also get quite as much honey from a single hive, if well looked after, as some can from a double-queened colony. I remember in Jubilee year taking nearly 100 lb. of surplus from a swarm that came off on May 1. I carried them to a clover field, and from them I took the amount stated. I rarely take note of what weight comes from any single hive—indeed, I do not consider that I look after the bees as well as I should—but I have always a ready sale for my honey.—W. H. J.

Queries and Replies.

[2591.] *Working for Sections without Increase of Stocks.*—Kindly advise me as under:—1. I have five frame-hives, each containing a strong stock, and my desire is to work for section-honey, and also to prevent swarming by the simplest plan. My idea was to make a sort of frame the size of a dummy-board, and by covering this frame with a sheet of queen-excluding zinc I could insert it in the hive, and thus allow the queen access to several frames for breeding, but still confine her to the hive. Do you think this plan would prevent swarming, while not hindering work in the supers? All my hives have the frames hung at right angles to the entrance except one, in which latter they are parallel to the doorway. 2. Which of these methods do you consider best? 3. If a swarm issues and is in the evening returned to the hive it left, after cutting out all the queen-cells, would this do away with the need of killing the queen, or would they swarm again? Would the old queen be better than one hatched out from a cell? I am not an

expert at catching queens. 4. A bee-keeper told me the right time to put on a second rack of sections was when the bees were just beginning to put honey in the sections next the window of the crate. Is this right or would you wait a little longer? 5. Do you recommend keeping the sections warmly wrapped up during the heat of summer, or is it better to keep them as cool as possible? 6. I have a frame-hive, the combs of which I think are not healthy, so I intend to transfer them to another hive in spring. What time would you advise me to do so, and how many frames would you give them with full sheet-foundation? The stock is strong, and the queen is last season's. 7. In feeding a swarm how much syrup would you give each night if the weather was fair? — CONSTANT READER, *Donegal*.

REPLY.—1. Confining queens, as stated, after many trials is voted a failure. 2. Right angles to entrance is best. 3. It succeeds at times, but more often fails. 4. If honey is plentiful, yes. 5. Keep warm when weather is cool, and *vice versâ*. 6. Transfer in April and give two frames of foundation next the hive sides. 7. About 1 lb.

[2592.] *A Beginner's Queries.*—1. I shall be much obliged if you can tell me of what kind the accompanying bee is? It was taken from a stock whose queen is Italian, mated with a British drone. All through the summer I have noticed a very few of these coal-black shiny bees, so entirely different from either ordinary Italians or British, and think they must be due to a strange cross some generations back. I should like to know what cross you think it is? 2. I am soon going to slip a cake of candy under quilts of one of my hives; is it better at this time of year to try to do this without smoking the bees, so as to avoid disturbing them, and will it be safer to smoke them before giving the candy. 3. In the middle of July I propose to prepare to re-queen some of my stocks by removing a queen so as to get queen-cells raised, and then when these are ripe I intend removing old queens and inserting queen cells. Will the bees destroy these cells if given when the queens are removed, or should there be an interval between, and how long? I am a beginner with a few hives, and cannot afford this summer to sacrifice the honey from a stock for the purpose of making nuclei.—CONSTANT READER, *Hall Green, Birmingham, January* 28.

REPLY.—1. Bee sent may be a common brown one or a hybrid, but being entirely deprived of all pubescence (or hairiness) it is not easy to say. It is one of those social outcasts in bee-life known as confirmed robbers, living by plunder only. 2. If bees are quiet slip the candy under quilt without disturbance. 3. Do not attempt queen-raising without first reading a guide book on bees. You will save worry and failure by so doing.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. H. H. (Banbridge).—*Working Plans for Hive-making.*—1. We have endeavoured to get *Work* for August 4 last year, but so far have not succeeded. It is reported "out of print." Could you lend us your copy for perusal and return? We will then be able, perhaps, to reply to queries regarding drawings and plans for making the "W.B.C." hive. 2. Let the bees transfer themselves on the plan so often recommended in this journal. 3 Yes; the shallow-frames can be worked in the same box as the hanging-frames of sections by raising the box up in the manner stated.

MRS. DAWSON (Mullingar).—*Sugar for Candy-making.*—So far as we can judge without analysis, the sample is cane-sugar, but most persons succeed better with loaf-sugar than the small crystals.

W. A. (Swansea).—*Queen Cast Out in February.*—If the queen found belonged to the skep beneath which she was found, signs of restlessness on the part of the bees should be observable; but if any recent accident has caused death of the queen, the bees will be useless as a stock. Had it been a frame-hive, no difficulty would occur so far as regards being assured of the queen's safety or otherwise; but a beginner could not very well judge of queenlessness in a skep. See how the stock gets on when breeding should be on the increase.

D. D. BENNETT (Morpeth).—*Moving Bees in February.*—If you will go to the trouble of altering the outward appearance of the hive entrances by placing a bushy twig or small branch of a tree on the alighting-board of each stock, they may be moved at once with little or no loss of bees. To carry twenty-two colonies away for a mile or two and return them after a fortnight's sojourn in the new location would involve more actual risk than shifting the hives 100 yards at once, besides saving labour and expense.

A CORRESPONDENT, dating from Zandpoort, Holland, February 18, writes:—"Please oblige me, as a regular reader of your esteemed bee-journal, with information whether any of the great honey-dealers in England will undertake to sell pure extracted honey in quantities of not less than 100 kilogrammes, delivered free on shore at Rotterdam?" We are also asked to name a trustworthy firm. On the first point we have no information as to likely buyers of Dutch honey. In answer to the second we might name Messrs. Goodall, Backhouse, & Co., Leeds, or Messrs. Crosse & Blackwell, London.

*** *"Musings in my Bee Garden" and "Notes from Wychwood Forest" are in type, and will appear next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, 21st inst., under the presidency of Mr. W. H. Harris (vice-chairman). There were also present Major Fair, Messrs. R. T. Andrews, W. Broughton Carr, J. M. Hooker, W. F. Reid, J. H. New, E. D. Till, and the secretary.

The minutes of the previous meeting were read and confirmed.

Mr. F. W. Cook, London-road, Sevenoaks, was duly elected to membership.

The Finance Committee's report, presented by Mr. Andrews, showed a bank balance amounting to £63 4s. 3d. Several accounts were brought forward for payment, and the report approved.

The expert's report on his work during the year 1900 was presented to the Council.

The secretary was instructed to acknowledge with thanks the gift of a hive and a "Brice Swarming Appliance," for use in the apiary at Swanley, by Messrs. Jas. Lee & Son.

Nominations were made of judges to act in the bee and honey department of the Royal Show at Cardiff in June next.

A report was presented showing the amount already received in aid of the "Defence Fund," and some correspondence on the subject duly considered. A committee consisting of Messrs. W. B. Carr, W. H Harris, W. F. Reid, and F. B. White, was appointed to suggest a scheme of insurance to be afterwards submitted to the Council.

Thursday, May 16, was fixed for the forthcoming examination of candidates for first-class expert certificates.

It was resolved to hold the annual general meeting on Thursday, March 21, at 4 p.m., to be followed, as usual, by a conversazione of members.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4260.] The discussion on "Size of Sections" still continues. Mr. Sladen (4249, page 62) mentions having worked a few tall, narrow sections, but owing to the poor season only a few were finished. May I ask Mr. Sladen how these sections compared with the ordinary 4¼ in. by 4½ in by 2 in. as regards time of filling? What bee-keepers want is the section which will secure to bee-keepers some of those tons of honey Mr. Lamb holds out as an inducement to take on a thin section; if these new shapes will not increase our output, where will the advantage come in? I hope to see a reply as to the comparative value of the "Danzy" and the ordinary sections from our friend, Mr. J. H. Howard, of Holme, as I hear that they have been given a trial by him. I also notice that Mr. H. is the only dealer who quotes the "Danzenbaker" section and racks in any catalogues I have of a year or two ago; so that evidently there are bee-keepers in England who have already given the tall sections a trial, and if so, these gentlemen might give us their experience of the "Danzy" as compared with the old-style square section.

I hope bee-keepers will not consider that our friends in America and Canada use more of the taller, narrow sections than the square, because, as Mr. Sladen places the ordinary sections last, one would be inclined to think such is the case. According to Messrs. Root's catalogue it seems that in the last few years there has been a tendency towards a section taller than broad, and in consequence they cautiously added the "Danzy" section to their regular square size. It has, however, taken so well that they now make it one of their regular stock sizes. But when we read that the Root firm turned out some fifteen millions of sections in 1889, we must admit that the old and tried 4¼ in. by 4¼ in. section still holds the field.

As regards honey ripening quicker in 1¼-in. than in 1⅞ in. combs, I do not believe there would be any difference in the same super. Bees do not seal over honey until it is ripe. Some of the finest honey I ever exhibited was on the hive only eight days from putting super on to taking off for despatching to a "Royal" Show the same day. I remember Mr. Blow wrote me from the show asking me from what source my bees gathered such splendid honey. Many times I have removed sections of only seven days' growth, and during last season my sections were awarded first prize at every show where they competed in all parts of England, yet these were all in the 4¼ in. by 4¼ in. size.

Mr. Danzenbaker's sections may sell better than the square, but when we have all adopted the oblong size there will be no comparison, and things will remain as at first except we shall have to purchase thousands of new racks and make firewood of the old ones. In any case, if we adopt the size Mr. Sladen suggests (5 in. by 4¼ in. by 1⅛ in.), a new divider or "fence" must be used.

Reliquefied or "Clarified" Honey.—My objection to this is that the honey is not shown in its natural state, and the consequence of heating is that it crystallises very unsatisfactorily compared with honey which has not

been heated. If the public requires "clear honey," we must endeavour to meet the demand, though this is something new. If honey during the winter months of long ago did not "set" (as our forefathers termed crystallisation), the honey was not saleable.

Removing Sections.—On the question of using five racks or two at one time, mentioned by "D. M. M." (4216, page 34), the position of apiaries may somewhat vary the method of working. Our friend's apiary "ayont the Tweed" may be in a secluded spot, and from the fact that he is located, I believe, in a glen, we would expect his hives to be sheltered by hills. But although I usually work with two racks only at one time, this does not convey the idea that my bees would not work in four or five racks if left on; nor does it show that "D. M. M." places five racks on the hive at the beginning of the harvest and leaves it to chance to get them filled. If I mistake not, like myself, he gives extra room as required, and leaves his finished sections on the hive longer than is really required. My system of removing sections as soon as sealed and completed has worked so well for many years that I find no need for change. One of my reasons for prompt removal is that when the limes come into bloom honey-dew is often in evidence. Again, when a break occurs in the weather after sainfoin is cut, the bees sometimes store honey of a darker colour, and in this way I have had a fringe of dark honey placed around the sections (in shallow-frames also), in either case it spoils the look of the honey, and in the shallow-frames, the few cells of dark honey will very materially affect the beautiful light amber colour of the sainfoin honey.—W. Woodley, *Beedon, Newbury.*

SIZE OF SECTIONS.

(*Concluded from page* 74.)

[4261.] I greatly value Mr. Sladen's independent testimony (4249, page 62) on the side of narrower sections. And as we agree upon most points the task of explaining the others will be comparatively easy. For the new section there are three features I have for some time regarded as essential: (1) that they should be narrower; (2) that they should contain a full pound weight of honey; and (3) that three of them should fit the shallow frame.

I was therefore surprised to read that Mr. S. thought I only lately advocated a *larger* section than our present 4¼ in. square one. I cannot understand how he came to think so, for in my first article (December 27, page 506) I gave the very sizes I preferred, viz.:—5 in. by 4¼ in. by 1⅝ in. or 5 in. by 4⅜ in. by 1⅜ in.; again I wrote, "having larger surfaces they would look handsomer," and also "now, if a section were selected of such a size that three of them could just fill the shallow frame I think our requirements would be supplied."

In August last I spent a pleasant evening with the Rev. and Mrs. Sidney Smith, near Whitley. It was during part of that night that I turned over in my mind a suitable size to recommend for a new section, and that vigil ended in my coming to the conclusion that 5 in. by 4¼ in. by 1⅝ in. was the best size, as it could be used in the present section racks if they were raised ¾ in., and also frames to hold three would hang well in our 6-in. boxes. At that time dividers were not entertained by me. Now that this factor is brought into the problem, I would go in for 1⅜ width "plain," and to the frames which held them I would apply the principle of the "fence."

There is a likelihood of the taller sections, from their very shape, coming into favour. A Derbyshire bee-keeper informed me that one American writer compared 4 by 5 sections to tall American ladies, and 4¼ square to a squatty old woman.

Mr. Sladen sees no particular advantage in adopting a section three of which will fit a shallow-frame, and he gives as his reason, "as comparatively few bee-keepers now put sections into shallow frames." But the reason why hitherto sections have not been hung is because we have had none to fit the shallow frame, and those who desired to hang the 4¼ in. by 4¼ in. section have had to make a special frame. (The "W.B.C.")

Sections fitting shallow-frames have the advantage of simplicity; the same frame could be used for the production of either honeycomb or extracted honey, *i.e.*, either with or without sections, or both could be produced in the same super. And this will be one of the advantages of the size we have both so happily hit upon—5 in. by 4¼ in. by 1⅝ in. (or plain 1⅜ in.). The breadth being 4¼ in. it would fit the present section-racks if raised ¾ in. And the length being 5 in. it could hang in the 6-in. boxes in frames, the top and bottom bars of which were ⅜ in. and ¼ in. respectively, leaving ⅝ in. space below. These sections would probably be ⅛ in. too high for most of the ordinary shallow frames, but these latter, as a friend writes truly, "are too weak to hold the sections and the wood too narrow to either hold them in their place or to cover them entirely so that the bees should not soil them."

It seems, then, best to have the height 5 in., avoiding fractions, and to make frames accordingly. My friend also adds: "Mr. Sladen does not state in his letter to the B.B.J. whether the new American sections are worked with separators or not (I believe they are nearly all worked with a "fence"). I see no difficulty in doing without them, as we get beautiful comb-honey in shallow-frames. I had last year comb-honey in frames as even as any section I ever saw, and as true as if it had been worked with separators. Every frame in the boxes alike; none bulged except where the

foundation had given way. This proves that foundation, properly fixed, is an important factor in getting the bees to work comb true. I have also found that if a piece of foundation in a section has given way that the comb is badly worked. Now, if we can get bees to work so true in frames, why not in frames of sections? This, you know, is the original idea, and which we have discussed at our meetings."

The same writer would advocate the thickness of 1½ in. widest part, 1¼ in. narrowest. We may come to this when we can put aside separators. Until then 1⅝ in. (or 1⅜ in. plain) seems the proper width. Though Mr. Sladen thinks this might average a light pound and would be inclined to decide upon 1$\frac{11}{16}$ in. in width, I cannot quite follow him here. He informed us that 15½ oz. is the approximate weight of the American section measuring 4 in. by 5 in. by 1⅞ in. plain. But surely the ¼-in. breadth will make up for more than the deficiency of ½ oz.; so that, by making the section $\frac{1}{16}$ in. wider, shall we not be in danger of raising the weight to 18 oz. or more?

I was, however, agreeably surprised to learn that sections of this size had already been used in America, as I did not see them mentioned in the A. I. Root Company's catalogue. If so, all who wish to try them cannot do better than bespeak them at once, and meanwhile prepare for whichever method they adopt of working them. To find a simple and effective way of fixing in and removing out of frames will require a special study. Then I trust the season will be such as to allow the conflict to be carried into the arena of the show-bench, and to encourage once more those who have hitherto failed in producing honey-comb.

In reviewing this discussion I have found nothing to shake my main position that the fault of the present section is that it is too thick to give satisfactory results in our changeable climate.

It may, perhaps, interest some to hear how and when I came to study the thickness of combs. About eighteen years ago, I went from Lynmouth a day's excursion by steam-boat to Clovelly (N. Devon). There, as I was ascending the quaint street, made up of steps, I saw in a window a super of delicious honey for sale. The colour was perfect, but I was chiefly struck with the thickness of the combs. At the end of the day, on returning from the heights and their splendid view, I decided to buy the honey, but just then the steamer's whistle summoned us to come on board. I, however, persuaded a few friends to remain with me, whilst others went on to tell the captain we were coming. I rushed in and asked for the honey to be packed up, but was told "I could not have the receptacle as the owner wanted it returned." Luckily, I espied a large, round biscuit-box, when the cutting out, weighing, and paying were matters only of a few seconds, and I rushed down in triumph with my spoil. On reaching the boat I found the passengers most inquisitive as to contents of my "tin box," as some one had spread the report that I had secured a young porpoise!

Well, I measured those combs, of which some parts were about 3 in. thick. And for years the memory of that sight fired me with ambition, and also a constant problem was in my mind, "How thick a comb can, and will, the bees build?" I tried to coax them gently by a telescopic method until some combs measured nearly 3½ in., when the weather stopped further progress. At the Yorkshire Show at Halifax I exhibited some frames with combs about 3 in. thick, which some bee-men could not believe were single combs of two cells; they seemed to think I had played some trick, and cleverly united two combs together! My idea at that time was to produce the thickest and handsomest blocks of comb and pack them in tin boxes by means of butter-paper. But I found I could not produce a regular supply, on account of the uncertain seasons, of any comb 1½ in. or above in thickness. Thus, after many attempts, year after year, with frames spaced at various distances, I came to the conclusion that in our climate a medium or average thickness of comb is the best for both bees and bee-keepers.

I thank the editors very much for allowing me to place my views so fully before the brethren, and trust the discussion has stirred up some interest. In apiculture, as in other pursuits, we must, I suppose, expect difference of opinion as to the best road to success as long as there are different methods of working and varying conditions of forage and climate. I have now only to add a list of the advantages of a narrower section which have occurred to me. Of *disadvantages* I can think of only two—that neither specialists nor south country bee-men would have the show-bench quite so much to themselves.

Advantages.

1. Taken to more readily, as bees prefer thinner combs. 2. With cells worked out quickly the wax would be more palatable. 3. Honey ripened sooner, being more exposed to heat of hive. 4. Sealed more perfectly, especially where combs touch the wood, leaving no defect to hide. 5. Larger number of sections finished, and market supplied more regularly. 6. Less sections to extract. If some that were uneven were extracted the honey would be fit for bottling, whereas at present the honey from unsealed comb is only fit for feeding bees. 7. Attractive appearance—on account of shape, transparency, cleanness of wood. 8. Darker honey more presentable. 9. Better for separating and grading different kinds of honey. 10. Box full completed and removed, instead of taking out some completed from the middle, which involves time, labour, and disturbance of cluster. 11. Decoy combs not required, which

are generally badly finished. 12. Honey-comb more portable. Mr. Corneil brought over with the Canadian exhibit 800 tall sections, of which only one was broken. 13. The thickness of comb would approach a truer average. 14. More suitable for our many short seasons, especially on the moors. 15. Less apparatus necessary, shallow-frames being available for either comb or extracted honey, thus helping cottagers. 16. With brood-combs less clogged with honey the queen would have more room for eggs. 17. Swarming propensity better checked. 18. Standard of honey-comb created. 19. Beginners and those who had failed before encouraged. 20. More profitable—the present section produced at too great a sacrifice. — RICHARD M. LAMB, *Burton Pidsea, Hull, February* 23.

BEES IN EAST YORKSHIRE.

SEASONABLE NOTES.

[4262.] I do not think you had a line from me for B.B.J. last year; not that my interest in the bees has relaxed in any way, but as we advance in years we seem to get more careless; besides my time is fully occupied with the routine of daily work. Well, I have read friend Rymer's "Hints on Non-swarming Hives," and although he is located some twenty miles away, I know him to be an advanced bee-keeper. His advice, however, is not intended to apply to all districts nor all bee-keepers. For instance, my district is entirely different to his; in early seasons I have honey in May and have often secured a good surplus by the longest day (June 21). There are people in this district who keep bees almost solely for the sale of swarms. I have known my late father (who usually kept about twenty hives) to sell May swarms fifty years ago at from 15s. to £1 each. In the autumn he used to unite two or three lots together, using either flour or fusball when uniting. Coming back to more recent times, let me say I had only two swarms last year from my fourteen frame-hives, but did not increase the number of my stocks. In working for extracted honey I use ten frames in body-box and ten in surplus chamber, with a queen excluder between. In both cases where swarms issued I joined the swarms to top lot of bees and allowed an entrance to both chambers for free flight. The frames in upper chamber were extracted the first week in August; there was no brood in the frames returned to the hives which were despatched to the heather and they were found to be well filled on their return. My first swarm of last year filled a glass super by June 24, and with it I took a prize at our local show. I have won prizes with glass supers at Malton gala at different times for thirty years past. My prizes at the above gala last August paid the whole of my bee expenses for the year.

When hiving swarms I give a frame of brood and place swarm on the old stand; by so doing it is very rare for the bees to decamp. They thus get all the flying bees. I could give some astonishing honey results from swarms the same season as hived. In one case a 6-lb. May swarm in 1889 gave me fifty 2-lb. saleable sections and twelve unfinished ones. My district may be called a fairly forward one; there are quantities of crocus in the gardens and plenty of willow and other flowering shrubs. In consequence it requires some care and management to keep the bees from swarming. My hives have lifts that enable me to use two racks each holding twenty-one 2-lb. sections or four racks of twenty-four 1-lb. sections at one time during a honey-flow. I have on several occasions topped the coveted 100 lb. of clover honey from one hive.

In conclusion let me add I have heard of several colonies perishing before Christmas; therefore, swarms will probably be in demand this spring. The ground here has been covered with snow for the last three weeks, and I have had to clear the hives from snow almost daily. I close by thanking your various contributors for the valuable information in your pages.—P. BIELLY, *East Yorks, February* 18.

(*Correspondence continued on page* 86.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our esteemed friend, the Rev. W. R. Nightingale—whose apiary is shown on next page—needs no introduction to readers of this JOURNAL beyond saying that the many interesting contributions to its pages over the initials "W. R. N." are from his pen.

Our regret is that for the last year or so his "Bee Notes from Sussex" have been less frequent than formerly, and we hope that the new district in which he has now settled will result in a resumption of "notes." Of himself Mr. Nightingale writes:—

"Some years ago my old housekeeper—since passed away—came to me in a huge excitement, and burst out:—'I saw them, sir; I saw them! They came streaming over the fields; and they're all gone in!'

"'*Who* have come, and *where* have they gone in?' I inquired, considerably mystified. Visitors were rare; my tiny house was incapable of holding any number; and besides, my study overlooked the garden-path to the front door. 'Who are *they?*' For I began to have visions of harriers, or fox-hounds, tumultuously invading my premises *en masse*, and doing no end of damage.

"'The bees, sir; the bees! They came straight along in the air, and they've all run into the roof!'

"'*WHAT!*' And I was outside the house, and gazing up anxiously at my roof, in less time than it takes to write it.

"It was quite true. A swarm had sailed along from the north, had alighted on a corner

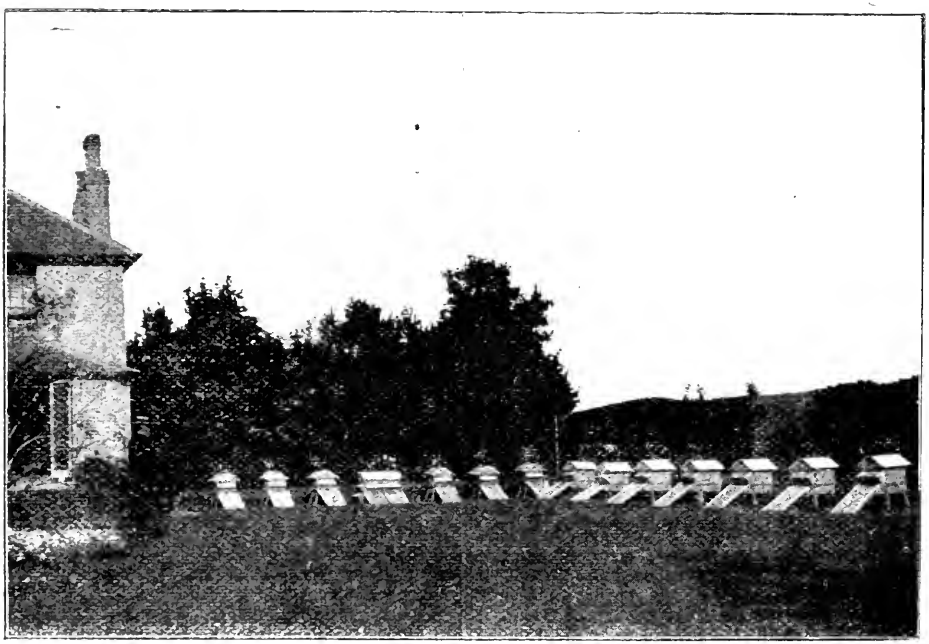
of the roof, and had run in under the slates, and ensconced themselves in a very awkward place, in the eave, outside the main wall of the house, in the hollow that ran all round the building, as I afterwards found out to my cost.

"I was speedily up a long ladder, examining into the state of affairs. The bees were buzzing all around a tiny hole—or, rather, several tiny holes. They were very good-natured, and in no way resented my examination; but there they were; and *j'y suis et j'y reste* seemed to be their motto—all in perfect good humour.

"I knew absolutely nothing about bees. I am not sure I then could distinguish between a worker and a drone. But I could not and istic topics. Needless to say, he soon enabled me to rid myself of the intrusion—not, however, until a good bit of the roof had been stripped of the slates to locate the enemy.

"But the inquiries I had had to make, the reading I had done, the great interest Mr. Lomax had imparted to the knowledge which he had conveyed to me, had so excited my curiosity on the subject of bee-keeping, that when he good-humouredly said, 'Now the bees have themselves come to you, why not keep a few stocks?' I readily fell in with the idea.

"I speedily became the owner of a hive of bees; soon after, of two more; then, of a violent attack of bee fever; then of Cheshire's



THE REV. W. R. NIGHTINGALE'S APIARY, EAST PRESTON, WORTHING, SUSSEX.

would not have them there, so close to the bedrooms, perhaps dropping honey through the ceilings or down the chimneys, or coming and stinging one to death in one's sleep, driving one out of the house—and all sorts of similar dreadful imaginings! What was to be done? The bees *must* move on.

"I took a good deal of local counsel from people who were very positive, but who mostly seemed to know really less than I did about bees; but I got very little useful advice. I tried various devices with surprisingly little success. I grew despondent. Suddenly I had a happy thought. I went off in hot haste to Mr. Lomax, an old Brighton friend, the well-known curator of the Brighton Museum, and the gifted and much-appreciated lecturer on bees and many kindred scientific and natural-

two invaluable volumes; then, of others, including the 'British Bee-Keepers' Guide Book,' the 'Honey Bee,' the BRITISH BEE JOURNAL, and the *Bee-Keepers' Record*; then, gradually, of accumulations of bee-keeping appliances of all kinds and descriptions; then, of more hives and stocks; before long, of swarms, both from my own bees and by purchase; finally, of honey galore—and *such* honey!

"Thus was I launched into bee-keeping. I have found it an immense relief from severer pursuits. The neighbourhood of Angmering is one of the most favourable for honey-production, the honey being of especial whiteness and fine quality. So it has always been remunerative, a feature by no means to be despised.

"For some years past I have regularly

worked from twelve to fifteen stocks, these being as many as I could manage, as I was (and am) a very busy man. Besides the practical sole charge as resident curate of the parish of East Preston, with separate church, schools, and a coastguard station; I was chaplain to the East Preston Union Workhouse; co-editor with my kindliest of vicars, Canon Deane, of the *Chichester Diocesan Gazette;* assistant secretary to the Chichester Diocesan Association; parish councillor; president of the local cricket league of seven adjacent parishes, who compete for an annual cup; and my garden demanded a good deal of personal attention. But it is indeed true that even the leisure of a busy man is busy.

"Practically, I am *entirely* self-taught. First I read up the theory of bee-keeping; then I set to work and mastered by myself the practical details and the manipulation. Of course, at times I have paid dearly for my experience, but the pursuit of knowledge even under such difficulties has compensating charms, and once more I have proved that 'Where there 's a will, there 's a way.'

"The one serious drawback to my thorough enjoyment of bee-keeping has been 'foul brood,' probably acquired through carelessness in ignorantly buying from neighbours out of kindness swarms and skeps and hives they wished to sell. I have kept it under by the steady use of the "painter's lamp" upon the inside of infected hives, burning them out, and by getting the bees off on to fresh foundation; but I have never entirely got rid of it. It recurs. I fancy it is often temporarily kept down by a strong stock, but remains latent, and breaks out again when the stock has from any cause become weak, sometimes after the lapse of a year or two.

"Since the photograph was taken I have removed to the vicarage of East Dean and Friston, near Eastbourne, whither I succeeded in easily conveying my dozen or so stocks without any loss or injury. Time only will show the capabilities of my new neighbourhood, out on the Beachy Head Downs.

"It will be seen that the bees were very near my former house. But from constant familiarity, they became strangely tame; and it was seldom that they were any trouble. Occasionally, however, they proved a nuisance; and they are now well away from my present vicarage.

"I cannot easily express my obligations to Mr. Lomax, to Mr. H. W. Brice, and to the Junior Editor of the BEE JOURNAL, for much kindness I have received from them. One important advantage of bee-keeping is its freemasonry of kindly interest and helpful brotherhood. If only for that, I should never regret the time spent amongst my bees; but I am certain I also owe to it improved health, great relief from the strain of severe work, and a healthy and beneficial diversion from the inevitably narrowing influence of constant engrossment in the 'clerical groove.'

"One addition only will I make; and it is this, for the encouragement and comfort of beginners. At the outset, I don't think any one could well have suffered more from bee-stings than I did. The first few utterly incapacitated me for three days each, the local swelling and general ill effects were so severe. But I have long become thoroughly inoculated, rarely wear gloves, and may receive twenty stings on a hand without serious inconvenience. I usually don a veil, but not always; and now have little or no trouble even in delicate and awkward manipulations. I strongly, therefore, recommend to all would-be brethren of the craft my own lifelong motto: 'Never say die.'"

CORRESPONDENCE.

(*Continued from page* 84.)

SIZE OF SECTIONS.

SOME MORE PRACTICAL EXPERIENCES.

[4263.] Being appealed to by Mr. Woodley (on page 62), I write a few lines from personal experimental experiences in my own apiary. In my opinion the $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. by $1_{1\frac{5}{8}}$ in. section for comb honey holds a position with producer and purchaser which it will be a costly job for British bee-keepers to take away. The producer would for some time have to meet with trouble and disappointment in effecting the sale of any other size section. At the same time, the object in view is a worthy one if it tends to prove, by actual production, that any other size section will be more remunerative to the producer and more fitting to receive the work of the bees in a fully completed and perfectly sealed condition. To this end I have experimented for a good few seasons with sections of a half-pound capacity and also the one pound of various shapes and widths; I have also tried the $1\frac{1}{2}$ and 2 pound sections, each with and without dividers. In every trial, however, the divided sections came out best. It is therefore clearly proved. to my mind, that dividers must be used for the production of sectional comb-honey. Under such conditions then, my experiments show that the $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. by $1\frac{5}{8}$ in. section has held its own, in quantity and finish, against any other 1-lb. size, so far used in my trials, including the 5 in. by 4 in. by $1\frac{3}{8}$ in. used with the fence-separator.

In working for sections, I find full sheets of foundation more helpful than "starters only." In using the latter, the bees are apt to build *upward* from the brood-nest, especially so when a section-rack is put on too soon. Comparing tall sections with those not so tall, the latter every time have had bees at full work sooner than the former. This proved—conclusively to me—that the $4\frac{1}{4}$ by $4\frac{1}{4}$ have advantages over taller sections, and to this end I feel certain that a $4\frac{1}{4}$ by 5, or even a plain section 4 by 5 by $1\frac{3}{4}$, worked short way up

has good claims to consideration. It is a size which the standard frame brood-body will accommodate. It is perfectly certain that dividerless comb-work, as in shallow-frames, is better sealed and completed than work in a dividered sectional super, and this arises from the fact of the more direct and open space in connection with the brood-chamber. It, therefore, remains for the modern bee-keeper to bring his sectional supers as near to the conditions of the shallow-frame body as is possible. One way of securing direct contact as nearly as possible with dividered sections is to use a section not so tall as long, and thereby get all the elbow-room possible for the bees to work in open contact with the brood nest. After making trials with dividered work so ordered, I have partly proved it helpful if dividers be so arranged that the bees (other than those in the section) can cluster near the section workers and act as conveyers of material for the latter while at work. They will thus ensure sections which would be "prize-winners," and as such would find a good sale when the public have been "educated" away from the old section.

My experiments last year along these lines were cut short through the poor honey season; still the results urge me to resume my trials in the coming season. Should I be successful the results, and how secured, shall be made known.

The season being still before us, all who are wanting a better thing than the 4½-in. section will have a chance of giving, by actual production, proof of the betterness of this or that in sections. I would, therefore, venture to suggest a class at the "Dairy Show" for 1-lb. sections which are not the 4½ in. by 4½ in. size. To my mind writing one thing down has a first place, but proving by actual work done has a better.—JOHN HOWARD, *Holme, Peterboro', February* 21.

COMMENTS ON CURRENT TOPICS.

[4264.] *Weather.*—With us here, weather is the chief current topic. January was a mild and open month, with no snow, and little, if any, frost until the last few days; but February has fairly "filled the dyke." In upland districts the storm has been exceptionally heavy and prolonged, with hives nearly buried the greater part of the month; yet down nearer the coast—only thirty miles away—ploughing and other outdoor work has been going on merrily.

Commercial Honey.—The note from Selkirk (4246, page 57) in regard to syrup-feeding opens up a new phase of this subject. I never heard of such a practice, and cannot believe it prevails, unless amongst some of the baser or *basest* sort found in every calling. Even with them it cannot be made to pay, so they will soon drop it. Any merchant who handles honey in comb would know the adulterated at a glance, and the "manufacturer" would soon find himself without a market.

Wells v. *Single Hives.*—"Bedale" is evidently an excellent Bee-dale, and Mr. Horn is to be heartily congratulated on such a splendid take in a season when most have to complain of small returns, but I question if the results of this or last season will aid in making many "Wells" converts. Those who advocate these hives, in recording a large total from a few of them, seem to "hug the flattering unction to their souls" that their excellence cannot be excelled, whereas your pages year by year teach us another lesson. Here are a few extracts from your back numbers, which I tabulate to make the points clearer:—

Owner.	Total hives.	Total lbs.	Average.
W. H., Hereford	6 single	620	103
Mr. A. Muir, Kirkcowan, N.B.	40 single	4000	100
Mr. Horn, Bedale	8 "Wells"	562	70
Mr. Geo. Wells, Kent	12 "Wells"	1140	95

Looked at from whatever view you please the Wells hives have to take second place.

Size of Sections.—Like the Rev. Mr. Lamb, we have all, I doubt not, a sincere desire to do our best to make bee-keeping a success and bring our results as near perfection as possible, though we cannot see eye to eye with him on this particular point. Recording the results of experience is surely not doing anything inimical to this desire. Yet he considers some of us are not "friends of apiculture," because we stand up for the present section. Now, leaving out all consideration of frames for the present, Mr. Lamb's whole contention turns on whether our standard section, favoured by the million here and in America, or another thinner one—say the "Danzy"—preferred by a few hundreds on the other side, is the more perfect receptacle for comb honey? I would like to emphasise this point, and then ask your readers to pause and consider on what foundation your reverend correspondent builds his whole argument that a thinner is preferable. It is simply a matter of theory and all evolved out of cloudland. Here are a few extracts from his recent articles showing this: "*If so*, the problem is," "I believe," "I think," "I assert," "I consider," "Probably." These and many more are the essence of his arguments used. He never says, "I know because I have proved it;" or, "I can certify from personal knowledge." The entire matter, therefore, is one of polemics on the one side; and the single short note on page 55, sent by Mr. McNally, quoting his extensive experience, shatters the whole aerial fabric! Would we get better results if we make any change? Mr. Lamb "thinks" that "probably" "if" certain things result we "might." Now, I assert from past experience (limited to 1,000 sections) that we would get worse, and Mr. McNally and others from practical knowledge state the same. If we make any change who will determine what the change

shall be? For when we examine the multitude of forms and sizes of sections already on the market, we simply get into a state of chaos.

Amongst the many I select the following:—$4\frac{1}{4} \times 4\frac{1}{4} \times 2$ in. varying down all the grades of breadth $1\frac{15}{16}$, $1\frac{7}{8}$, $1\frac{3}{4}$, $1\frac{5}{8}$, $1\frac{1}{2}$, $1\frac{3}{8}$, $1\frac{1}{4}$. And of the larger sizes we already have: $5 \times 4\frac{3}{8} \times 1\frac{3}{8}$; $5 \times 4\frac{3}{8} \times 1$; $5 \times 4\frac{1}{4} \times 1\frac{5}{8}$; $5 \times 4 \times 1\frac{3}{8}$; $5 \times 3\frac{7}{8} \times 1\frac{3}{8}$; and $5 \times 3\frac{3}{8} \times 1\frac{3}{4}$. Captain Hetherington favours one size, Mr. Danzenbaker another, while Mr. Root recommends a third, and so on *ad lib.* If we go to America for a new standard, which of the many "fads" are we to follow? All honour to our brethren across the Atlantic who have given us many excellent guides in bee-keeping, but if we run after all the new-fangled notions prevalent in many corners there we would always be changing, and finding too often to our cost that "far away birds have fair feathers." Mr. Lamb's "low" standard sections, and "*disastrously,*" are surely mere figures of speech. We have not attained to perfection certainly but we frequently approach it. What mortal can say more? I had an idea that some years ago Mr. Lamb believed utterly in extra thick comb, and in your pages I find the following confirmation. He says: "I was successful in securing combs more than 2 *in. thick.*" . . . "When people have tried my system they can produce the handsomest combs." . . . "Nothing in honey production can surpass a well-finished shallow-frame of good honey." "My aim is to secure such handsome *blocks* or *bricks* of honey-comb that my customers may prefer them to sections. There would then be an advantage all round. The customer would have more honey in proportion to the wax," &c.

The above two short quotations are from your volumes of 1894 and 1895, and are dated from Burton Pidsea Rectory. They, to my mind, largely refute all that has been adduced since his "Meditations" appeared.

P.S.—I had written the foregoing before receiving the JOURNAL of February 21, containing Mr. Lamb's last lengthy article. I question if it advances the argument one iota, for though he tells us we should avoid Scylla in the shape of the $4\frac{1}{4}$ by 2 section, he only consigns us to Charybdis, as the discussion has simply shown that a dozen differently sized sections are favoured by him, or one or other of the disputants. Which of them is to be the ideal "Moor" or "New Century" one is still *in nubibus.* Several of Mr. Lamb's phrases and sentences are evidently "writ sarcastic," and I participate in the general shower. My unimportant personality is of no consequence, but my full name and address has appeared in the JOURNAL several times, and our junior Editor knows all about me, and can use this discretion in conveying any information he deems necessary to any interested party. Meanwhile I prefer to be known as D. M. M., *Banff, February* 23.

SOME ESSEX NOTES.

[4265.] *Birds and Bees.*—Mr. R. Hamlyn-Harris, in his "Reviews of Foreign Bee-Papers," for which our thanks are due, quotes from a Belgian paper. According to a French beekeeper nightingales are useful near an apiary; this bee-keeper having by watching assured himself that the nightingales hunt drones exclusively (page 48, January 31). This is most interesting, but the nightingale does not visit England in great numbers, and when here appears to prefer more solitary places than an apiary, where, at the time of the year when the nightingale visits us, the bee-keeper is moving about the apiary most of the day. We can but admire the common-sense shown by the nightingale in its preference for the more plump of the dainty morsels—the drones; and as to whether these particular birds have learned to distinguish between those insects that have stings and those that have not, the probability is that they are able so to distinguish. I think we have only to consider the instinct shown by some of our own British birds in extracting the stings of bees before eating them, in order to see that the nightingale may be expected to find out for itself in a very short time that the bulky drone has no sting. Both the large and small short-tailed blue-tit and the common house-sparrow here are very fond of bees, and all three of these birds appear to invariably extract the sting before eating the insect, and wipe the sting from their bills upon the nearest piece of wood. The sparrow does not interfere with my bees in winter, but takes to his bad habit again as soon as the bees become more active. On the other hand, tits indulge in these luxuries at our expense when we are least able to spare the bees, viz., in winter and early spring. My own observations tend to show that tits do not take bees in summer. Moreover, the present winter being so mild, they did not put in an appearance till January 4, but they then "came to stay." A few days ago I went down among the hives. It was a day when bees would not fly naturally, but I saw that one stock had been disturbed, as a few bees were running in and out, and I found twenty newly extracted stings upon the flight-board.

A large number of bee-stings extracted by the tits may be seen upon the fronts of most of my hives. These nimble little birds show a decided preference for hive bees, and so far as I have seen do not pick up dead ones.

Another Enemy of Bees.—On January 4, I caught the first queen wasp for 1901, the only one seen so far this year. She was tucked up under the ridge outside the roof of a hive. Frost does not appear to do the queen wasp any harm, for I have found them in spring in places where one would expect them to have been frozen through and through during the winter. On some large estates it is usual to offer a shilling each for all queen wasps caught

before a given date. I think it will repay bee-keepers to adopt this plan of ridding themselves of wasps.

Toads and Bees.—Toads were very troublesome here last season, and I had, though reluctantly, to kill several. The habit of eating bees got such a hold upon them that it soon became quite useless to either chase them away or carry them off and drop them down a short distance away. Toads are useful creatures in their right place, the garden, but once they take to bees they are like the tits; dead bees are not good enough for them, and they must climb upon the flight boards of the hives as the cool of evening comes round, and swell their great sides with bees, "All alive, O!" stings and all it seems.

The Tongue of the Bee.—The tongue of the bee along with various other parts of its anatomy are very interesting to many bee-keepers, especially to those who are able to obtain the necessary instruments to properly and fully examine them, but to the average bee-keeper it seems of little use talking about one strain of bees having a tongue $\frac{15}{100}$ of an inch longer than another, and so on; but every bee-keeper, even the poorest, can increase his stocks or rear his queens from those colonies giving the best results in both quality and quantity of work, and in so doing will preserve the best and secure the "survival of the fittest."—Wm. Loveday, *Harlow, Essex.*

NOTES FROM WYCHWOOD FOREST.

[4266.] Englishmen are credited with being apt to place utility before beauty, and may be this is right; but partly through stress of circumstances and our changeable climate, together with the fight for bread in this age of competition, a large majority are chiefly anxious to produce what will sell, even if it is not "an ideal thing of beauty." Epictetus, the stoic philosopher, said, long ago, "Every matter hath two handles; by the one it may be carried by the other not." And so the bee-keeper uses all his skill to get perfect sections of comb-honey, because he knows that they will sell and bring the cash to pay the rent or other things. But if the thin sections advocated by Mr. Lamb can be produced in better form and finish so far as regards sealing, his difficulty in selling would be made still more difficult, for the reason that John Bull likes a *thick* comb of honey in buying a section. By all means let the well-to-do bee-keeper experiment in the direction of improvement, and every step of progress gained as given in B.J. will tend to help the craft to a higher level, but the rank and file will not easily be ousted from old tried methods, but will sit tight till shown a "better way."

Success to Mr. Lamb, say I, and to all who experiment in the interests of bee-keeping, but some of us must jog along the old path where the pennies are to be picked up, and that is in the wake of the old $4\frac{1}{4}$ by $4\frac{1}{4}$ section.

Selling Honey.—Mr. Edens' letter in B.J. (page 441) from this neighbourhood on selling honey was interesting reading, and when one bee-keeper runs round with sections just off the hive at 6d. each and others label theirs in the windows at 5d. each it makes one inclined to say, What next? To my mind the best thing is to quietly let them go on, withdraw from the competition circle, sell locally, if you can, at a fair price, and seek a market for the rest elsewhere by advertisement or otherwise.—John Kibble, *Charlbury, Oxford.*

OBITUARY.

We regret to learn of the death—at the ripe age of seventy-five years—of Mr. John Turnbull, late president of the Lauderdale (Berwickshire) Bee-Keepers' Association. From some particulars kindly furnished by the secretary, Mr. Robson, we gather that Mr. Turnbull settled in Lauder some twenty-three years ago on his appointment as manager of the gas works, and, after a busy life of well-spent activity, he, only about a month ago, resigned his position owing to the increasing infirmities of age, to pass the evening of his days with his son, who resides at Wisp, near Liberton. A keen entomologist, he devoted much of his leisure in earlier days in forming a collection of insects, of which he was very proud. But it was as an apiarian he was best known, bee-keeping being his great delight for many years past, and there were few publications or bee-books of note that Mr. Turnbull had not read and studied. Besides lecturing on the subject in the Town Hall some time ago, he carried on a copious correspondence with bee-men in different parts of the country, indeed, it was largely owing to his enthusiasm that the followers of the craft have increased so much in Lauderdale. We learn that a few years ago he celebrated his golden wedding, when, along with his wife, he was the recipient of many practical expressions of friendship and goodwill. His well-known figure will be much missed in Lauder, but he has gone to his rest honoured and respected by all.

Queries and Replies.

[2593.] *Queen-Excluder Zinc for Dividers.*—I note correspondence in B.B.J. *re* size of sections and the use of dividers with the same. One great fault seems to be that the bees are divided into so many small lots for the secretion of wax, &c. I would like to ask if any bee-keepers have tried queen-excluder zinc used as dividers, and, if so, with what results? I have not yet tried it myself, but it seems to me that excluder would ensure straight combs and at the same time allow free movement for the bees, and the whole

rack of sections would be, as it were, one large cluster of bees.—E. W. CARBINES, *Cornwall, February* 25.

REPLY.—Queen-excluder zinc has been tried as separators for sections with unsatisfactory results, the sealing of the sections being more or less uneven on the face. In consequence of this fault the plan has fallen out of use.

[2594.] *Sheffield as a Bee District.*—1. Will you please let me know through the BRITISH BEE JOURNAL if Wortley (near Sheffield) is a good district for bee-keeping? It is about three miles from Wharncliffe Craigs, where there is an abundance of heather. 2. Is there a Yorkshire B.K.A.? If not, where is the nearest B.K.A., and the addresses, please? —W. P., *Wortley, February* 22.

REPLY.—1. Perhaps some reader, better acquainted with the capabilities of the district referred to than ourselves will kindly reply to our correspondent's query. 2. The Hon. Secretary of the Yorkshire B.K.A. is Mr. R. A. H. Grimshaw, 3, Manston-terrace, Crossgates, Leeds.

[2595.] *Transferring Bees.*—I bought a stock of bees in a frame-hive last spring and wish to transfer them to a new hive, because the one they now occupy is worn out and rotten; many of the combs, too, are very old and in some places joined together. I therefore beg to ask: How could I do it and what would be the most suitable month to operate? —J. GREENHALGH, *Harrogate.*

REPLY.—Your best course under the circumstances will be to allow the bees to transfer themselves to a properly prepared hive. Full details of the work involved in the operation appear in the "Guide Book," and brief directions how to proceed in securing the same object have appeared more than once in our pages. We may, however, for the benefit of those who do not keep back numbers for reference recapitulate the instruction below as being far preferable to "driving" the bees and patching old combs into new frames, a practice now happily falling rapidly into the limbo of forgotten things in bee-craft. Proceed, then, as follows: When the bees begin to carry in pollen freely—say at end of March or beginning of April—stimulate early breeding by giving a cake of well-made soft candy placed over the ordinary feed-hole or under the quilts. Carefully cover all down with plenty of warm wraps in order to retain the warmth of brood-nest. Repeat the feeding as candy needs renewing. Stimulate breeding in this way till the old hive is strong in bees; meantime, prepare the new hive by fitting each frame with full sheets of comb foundation, and set the prepared hive close to the one containing the bees to be transferred. When the old stock is seen to be getting well filled with bees, choose a fine warm day, remove quilts from tops of frames of the new hive, and after giving a puff or two of smoke in at entrance, lift the old hive bodily and set over the frames of the new one. This done, pack warmly to keep the lower hive as snug and cosy as possible in order to entice the bees into it; replace roof—raised sufficiently high by means of the usual "lifts" —and the job is done. A few weeks later, when the bees are seen to be working from the lower hive with increased vigour, it may be safely assumed that they have taken possession and have transferred the brood-nest to the frames below. The old hive may then be examined, and, if the assumption be verified, a queen-excluder is set over frames and the old hive replaced to be filled with surplus honey or removed after all brood has hatched out.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ERRATA.—By a printer's error in two last lines on page 77 the words "Hymenoptera" and "Lepidoptera" in Mr. Sladen's letter (No. 4257) end with the diphthong æ instead of the letter a. The words are plainly and correctly spelled in Mr. Sladen's MS.

JOHN HALL (Echt, N.B.).—*Honey-Comb Designs.*—For 2½d. in stamps we will forward a copy of our monthly, the RECORD, containing instructions for making honey comb designs.

GLADDES (co. Carlow).—*Improving Colour of Beeswax.*—1. Inquire of your local chemist for Annotto. 2. If used as directed on page 482 of B J. for December 6 last, no harm will follow from sulphuric acid in the quantity thus stated.

G. F. GILLILAND (Harrow).—*The "B.B.J." and Newsagents.*—Whatever your local newsagent may say to the contrary, it will not alter the fact that the London agent who acts for your local man can obtain the BEE JOURNAL from our publishers, Messrs. Kent & Co., Paternoster-row, on Wednesday afternoon each week. On the other hand, you may obtain it at any of Messrs. Smith & Son's railway bookstalls by ordering beforehand.

R. M. BROWN (Ware, Herts).—*Honey Samples.* —The fact of leaving the honey on the hive till late in the year would have no effect so far as regards changing its flavour or aroma. Nor can we account for its rather rank flavour and peculiar smell beyond saying that both have been imparted by the blossoms from whence the honey was gathered. There must be some local source of honey with which we are unacquainted, for, curiously enough, we had an exactly similar honey submitted for our opinion as to its source in 1899, and it was gathered at Hertford, some couple of miles distant from Ware. Perhaps some bee-keeper has local experience that will throw light on the question. The honey is good in colour, capital in consistency, and but for the faults named it would be a very saleable honey.

Editorial, Notices, &c.

BERKSHIRE B. K. A.

ANNUAL MEETING.

The twenty-first annual meetiug was held in the Abbey Hall, by permission of Messrs. Sutton & Sons, on Feb. 18. The report referred to the improvement in the Association finances (the balance-sheet showing a saving of £30 on the year), the van tour, and lectures carried out for the Technical Education Committee of the County Council. Mention was also made of a van tour in Devon, undertaken for the Devon B.K.A., and to the expert work, and visits to horticultural shows, &c. The report and balance-sheet were unanimously adopted, amid expressions of general satisfaction at the improvement in the finances of the Association.

It was resolved to issue the monthly *Bee-Keepers' Record* to members from March.

Miss La Mothe, the Rev. D. A. Doudney, and Messrs. C. J. Johnson, G. Sawyer, Winkworth, and S. Knight, jun., were added to the Council; Messrs. A. Sandys, of Drayton, and H. W. Seymour, of Henley, were added to the experts; and Miss Egginton and Messrs. Bishop-Ackerman and Cartland were elected representatives to the British B.K.A. Mr. John Simonds (hon. treasurer), Mr. F. Cooksey (auditor and librarian), and Mr. D. W. Bishop Ackerman (hon. secretary) were all duly re-elected.

The Hon. Secretary reported that the Berks Technical Education Committee had recommended the usual grant of £50, to be expended on a van tour of eighteen days and an expert tour of fourteen days.

It was decided to arrange, if possible, for a third-class experts' examination at the end of May or the beginning of June.

Votes of thanks to the officers for their work during the year, and to Messrs. Sutton & Sons for the use of the room, concluded a very interesting evening.—(*Communicated.*)

LANCASHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the above Association was held in the Preston Scientific Society's Rooms, Fishergate, on Feb. 23. Mr. George Rose presided. The annual Report stated that the first year's work closed with 240 members on the list. This year fifty new members have joined the Association, but a number have resigned and the total members on the list is about the same. After reviewing the results of the past honey season the report goes on to say: The County Council made a grant of £15 in aid of outdoor lectures and demonstrations, and nine meetings were held under its auspices. For the means to hold these meetings the Committee tenders its best thanks to the Agricultural Committee of the County Council Technical Instruction Department. The County Council expressed regret at not being able to help the foul brood fund, as it was beyond the scope of the powers granted by the Act of Parliament. The County Council had the use of the Association's bee tent and lecturer for the three days of the Royal Lancashire Show at Rochdale. The honey label issued by the Association had met with great favour, and 2,800 had been sold. A foul brood fund had been started, and a large number of donations received. The balance sheet showed the Society to be in a very satisfactory state of affairs, with a balance in their favour of £19 3s. 10d.

The report and balance-sheet were adopted.

A vote of thanks to the retiring officers and committee was passed.

It was decided to ask Mr. H. W. Worsley-Taylor, K.C., M.P., to accept the presidency for the year. The following were elected:—Vice-presidents, Lord Ashton, Mr W. E. M. Tomlinson, M.P., Sir George Pilkington, Sir J. T. Hibbert, Sir David Ratcliffe, Rev. Canon Blundell, Mr. F. Stapleton, Mr. W. Talbot, Mr. W. Fitzherbert-Brockholes, Major Campbell, Mr. Thomas Price, Mr. W. Tyrer, and the Rev. L. C. Wood. Committee, Dr. Anderton, Messrs. G. Roberts, W. Tyrer, George Rose, J. H. Walmsley, A. M. Fielding, Mr. Lloyd; hon. librarian, Mr. F. H. Taylor. The office of secretary has not yet been filled.

In the evening a conversazione was held, there being a good attendance of members. Natural history objects illustrating bee-life and microscopic views were exhibited. A very interesting lantern lecture on "Fertilisation of Plants by Insects" was given by Mr. Charles Turner, F.C.S., of Manchester.

SOUTH OF SCOTLAND B.K.A.

ANNUAL MEETING.

The annual meeting of the above Association was held at Kerr's Temperance Hotel, Dumfries, on February 20, Mr. S. M'Vie presiding. The Treasurer's report showed that the receipts for the past year amounted to £115 16s. 10d., and there was a balance of £30 in hand. The Secretary's report, after commenting on the past honey season in the south of Scotland, stated that practical demonstrations in bee-keeping were given at Lockerbie and Dumfries in connection with agricultural shows, and the crowds that surrounded the bee-tents showed the need there is for practical instruction throughout the country. Two honey shows were held, one at Dumfries on August 25, and the other at Glasgow on September 5 and 6 in connection with the Glasgow and West of Scotland Horticultural Society's Show. Both proved very successful. The balance-sheet and report were unanimously adopted, and the following office-bearers for the year were appointed:—Honorary Presidents, Sir Mark J. M'Taggart Stewart,

Bart., M.P. ; Sir Andrew Noel Agnew, Bart., M.P. ; Mr. W. J. H. Maxwell, M.P. ; President, Mr. S. M'Vie ; Vice-Presidents, Mr. James R. W. Wallace, Mr. W. M. Wright, Mr. W. Mackie, Mr. W. F. Wadd ; Hon. Treasurer, Mr. James Johnstone ; Secretary, Mr. James Kerr, Milldamhead. The following Committee were also appointed :—Messrs. W. Beattie, J. Maxwell, J. Henderson, J. Richardson, P. Jeffrey, J. Brown, D. Sohustone, J. M'Millan, R. Scott, and T. Easton. Expert to the Association, Mr. James Kerr. —(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE WINTERING PROBLEM.

HOW DO BEES MANAGE TO SURVIVE THE WINTER ?

[4267.] Choosing this interrogatory as a text, I propose, by way of reply, to state some obvious facts connected with the wintering of bees. Nothing relating to bees is of more importance to the bee-keeper than the wintering problem. If the bees winter well they are nearly certain to do well the coming summer ; while, on the contrary, if they winter badly, they are apt to die from spring dwindling, or, if they survive, recuperate so slowly that the labourers are too few to reap any benefit from the quickly-passing honey-harvest —besides the weak colony is always a prey to disease.

Successful wintering is comprised in the simple proposition, how to keep the bees alive, and is included in the subject of my text. By a close study of all the facts connected with the subject, we should be able to assist the bees in their wintering efforts ; whereas, through want of a thorough knowledge of the subject, our assistance might lead to results different from those expected.

Cold being the great enemy the bees have to contend against in winter, we construct hives to protect them—single-walled hives, double-walled hives, and chaff-packed hives. Now, if to winter there be a colony of bees placed in each of these different kinds of hives, it will be problematical as to which one will bring about the best results in the spring. The supposed advantage of the warmer hives is counterbalanced by the fact that the bees, if kept too warm, will fly out and be lost. If not kept too warm they will stay at home, and the colder hive may thereby have the greater advantage.

The hives, however, are not the essential requisites for wintering, as bees winter in old chimneys, in the garrets of dwelling-houses and churches, sometimes under the slates in outhouses, in cavities of trees and stone walls, and I have seen a colony survive three successive winters under a board projecting from a wall, the colony exposed on three sides to every rude blast that blew against it. The freezing cold air surrounded it on all sides. The rain and snow could not fall between the combs, built from the board, where the bees were clustering, but that was all the protection the bees had to carry them alive through three winters. How did they manage to survive ?

Bees survive the winter by packing themselves in clusters between combs of waxen cells filled with honey. The low temperature a cluster of bees so situated can resist and still keep alive is really marvellous, and is only paralleled, in the other extreme, by the degree of heat a bacillus spore can withstand without losing its vitality.

Water, if kept from circulating, is as bad a conductor of heat as eider-down (see "Encyclopædia Britannica," ninth edition) ; and honey, for the same reason, contained in wax cells $\frac{1}{5}$ in. in diameter and $\frac{1}{2}$ in. deep, must be an exceedingly bad conductor. We can, therefore, presume that although some heat must be lost, the loss through the combs may be reckoned as nil. The cluster loses heat around the outer circle, at the periphery ; the circumference is the radiating and cooling area.

Now, if we take a cluster of bees, say, 10 in. in diameter and $\frac{1}{2}$ in. thick—about the distance between the combs—we find that the cluster would be very nearly 40 cubic inches in volume, and the radiating or cooling area would be $15\frac{1}{2}$ superficial square inches ; 3 cubic inches of bees, therefore, only expose to the cold a little over 1 square inch of surface. If we take a cluster 5 in. in diameter we find the volume to be 10 cubic inches, and the radiating surface or area $7\frac{2}{4}$ square inches ; and, if we take a cluster 4 in. in diameter, the volume would be $6\frac{1}{7}$ cubic inches and the cooling area $6\frac{1}{4}$ square inches. The 10-in. cluster has, therefore, three times the advantage of the 4-in. cluster, and, in proportion to volume, three times more heat will be required to keep up the temperature of the smaller cluster.

The relation of volume to cooling area may be shown thus : It would take the bees contained in four clusters of 4-in. in diameter to make one cluster 8 in. in diameter, and the cooling surface of the 8-in. cluster would be one-half of the cooling area of the total of the separate 4-in. clusters. The bees, therefore, in the larger cluster would only require one-half the heat to keep up their living temperature that they would in the smaller clusters.

If we take a cluster 1 in. in diameter the

volume would be the half of ·7854, say four-tenths of a cubic inch, and the cooling area the half of 3·1416, say 1½ square inches; the cooling area is, therefore, proportionally four times greater than in the 4-in. cluster, and is too large to allow of much fall in temperature with safety to the bees. So small a cluster could not exist in winter, except at the equator or near to it.

The individual bee is very sensitive to cold, but we must remember that a cubic inch exposes 6 square inches of radiating surface, and that the volume decreases or increases as the cube and the surface as the square. A bee in mass or volume is less than the sixty-fourth of a cubic inch, and its radiating, cooling, or heating surface is more than one-third of a square inch. Assuming the sixty-fourth of a cubic inch to be a cube, its surface would be three-eighths of a square inch. This cube would therefore expose a radiating surface proportionally twenty-four times greater than the 4-in. cluster. The single bee, when incorporated in the 10-in. cluster, must be afforded over sixty times more protection from cold than it would possess outside the cluster.

The space between the combs is important. We will consider the distance between the combs in reference to the cooling area, and at the same time the supply of food, as these are closely related. The 10-in. cluster, between combs ½-in. apart, is surrounded by 80 cubic inches of honey—supposing the cells to be full—and as a cubic inch of honey weighs ·05 of a lb., there are 4 lb. of honey within reach of the cluster for the bees to feed upon. We will now suppose the combs to be 1 in. instead of ½ in. apart; the bees clustering equally close would occupy 7 in. instead of 10 in.—the volume is not changed, it remains 40 cubic inches. The cooling area, however, has been increased to 22 superficial inches, and the honey within the immediate reach of the cluster has been reduced to 2 lb.; in place of 2 cubic inches of honey to the cubic inch of bees, we have only 1 cubic inch of honey to the cubic inch of bees. The food supply has been diminished 50 per cent., and the cooling area of the cluster increased 40 per cent. The bees must therefore consume 40 per cent. more honey to keep up their temperature; and this increase of consumption and decrease of supply would necessitate their change of quarters in search of food in one-fourth the time required had they remained at the ½-in. distance. It must be understood, in reference to increasing the cooling area and the correlative consumption of food, that the capacity of the bees to keep up temperature by feeding is limited, and in a badly proportioned cluster, *i.e.*, a cluster radiating more heat than the bees can generate, the bees will die with an abundance of stores around them.

When the depth of the combs allows the bees to locate their stores above the brood-cells, they always lengthen the store-cells so as to leave only ¼ in. space between the combs. Let us see what the bees gain by diminishing the distance. Taking the 4-in. cluster between combs ½ in. apart, it would have to extend itself to nearly 5¾ in. to remain the same in volume at the ¼ in. distance. The cooling area would now, from diminishing the distance, be reduced 30 per cent., and the honey within the immediate reach of the bees would be increased, from 2 cubic inches to the cubic inch of bees, to 5 cubic inches to the cubic inch of bees—that is, 150 per cent.

From the facts here stated I think it is evident that the size of the cluster and the depth of the combs are really the essential requisites for wintering, and that, as a general rule, the size of the cluster and depth of combs must increase with the degrees of latitude. As the combs increase in size, they must, of course, be diminished in number and if the construction of the hives should not admit of the requisite sized combs for the latitude in which they are to be used, the bees will not be able to winter successfully in them.

The fecundity of the queen, so far as we know, does not vary with the latitude and cannot, therefore, be brought to bear on the subject in regard to the general area of combs used.

The bees survive through the winter by preserving as well as they possibly can the heat of their clusters: and as the general interior temperature of the hive can only be raised by the loss from these clusters, it follows—paradoxically, as it may appear—that the colder the general interior of the hive the better are the bees wintering, through the preservation of heat in their clusters; and it also follows that if upward ventilation, or draught, through the hive is prevented—which draught the bees dread above all things—the entrance to the hive cannot be too large.

In the spring, however, when the bees extend from the cluster over their combs, warmth in the general interior of the hive has its advantage; but if great enough to cause the bees to leave the clusters too soon, it might be productive of more harm than benefit.

The controversy concerning the merits and demerits of cold and warm hives by the presentation of the above facts is reduced in importance. The main object to be considered is their construction to admit of combs adapted to the size of bee-clusters required in various latitudes.

If the elucidation of the text has been such as to prove a want supplied, my object will have been attained.—An Observer, *co. Tyrone, February* 28.

TALL, THIN SECTIONS.

[4268.] I am glad to see that a free expression of opinion on the question of tall and narrow *versus* square and thick sections is being kept up by practical bee-keepers in the pages of the British Bee Journal.

Those writers who are disinclined to advocate the adoption of a tall section seem, on the whole, to admit that the strongest point in favour of it is that it may sell better than the present square section. Against a trial of the tall section one of the arguments they lay great stress upon is that only a small proportion of the sections at present in use in America are "tall." Your correspondent "D. M. M., Banff," while overlooking the fact that millions of sections used in America are in reality thinner than ours, makes a similar argument on page 87 in regard to thin sections. I should like to make it as clear to readers of the BEE JOURNAL as it is to my own mind that this kind of argument may really be against *progress* in any shape or form.

In the days of George Stephenson there were only a few railway trains compared with the thousands of stage-coaches that used to run every day. Was that a proof that the locomotive "was simply a matter of theory and all evolved out of cloud-land?" No doubt in those days many were ready to "assert from past experience" and "practical knowledge" that railways would be a failure! The seekers after improvements in George Stephenson's time were generally—as they are to-day—thoughtful men, and they had to qualify their forecasts of future developments with such expressions as "I believe," "I think," "I consider," "probably"; indeed, they could seldom say, "I know because I have proved it," or "I can certify from personal knowledge." Thus, the argument of "D. M. M." (on page 87) is perfectly parallel to that of the opposers of progress mentioned above when he says Mr. Lamb's "whole aërial fabric" is shattered by a single short note on page 55, where Mr. McNally, in "quoting his extensive experience," gives the reader to understand that he has never even tried the thin, tall 1-lb. section.

I entirely disagree with the deductions to be drawn from Mr. "D. M. M.'s" statements, and I ask, Why should he try to confuse bee-keepers of less mental capacity than himself by enumerating some of the many sizes of sections that have been tried and abandoned in America, describing them as "a chaos"? Surely nothing can be gained in this way. Let us select the best of them and say nothing about the others which have been proved to possess no value. It is also manifestly unfair to quote single words and expressions used by Mr. Lamb entirely separated from their context as statements for criticism.

I would not have spoken so strongly in opposition to our Banffshire friend's article had I not felt that there is something about the "swing" of it very likely to carry conviction to a certain class of bee-keepers if the arguments on the opposite side are not clearly and distinctly stated. Against "D. M. M." himself I have, of course, no grudge whatever, and I earnestly hope that he will soon show that he is in the ranks of open-minded inquirers after knowledge in this question, as he is in others.

To return to the proposed tall section. I am very glad that Mr. Lamb considers that a $4\frac{1}{4}$ in. by 5 in. section will satisfy bee-keepers who want a section, three of which will fit a shallow-frame. There is no doubt an advantage in having such a section, but to gain this advantage the British bee-keeper will have to abandon his ordinary section-rack, which he is not likely to do for some time. I suggested the $4\frac{1}{4}$ by 5 section for what I considered more weighty reasons. Our discussion has therefore tended to establish the $4\frac{1}{4}$ in. by 5 in. as the best size for a tall section.

As regards the question of dividers or separators (synonymous terms), ever since the first introduction of these appliances there have been bee-keepers ready to declare that they could secure good results without them; but in the production of comb-honey for sale dividers have been found indispensable to nearly every producer. We may therefore venture to say that on this point we are practically agreed.

While differing slightly from Mr. Lamb on the question of width of the $4\frac{1}{4}$ in. by 5 in. section, we agree that it should contain a full 1 lb. weight of honey. The width then becomes a mere matter of calculation.

We know that in bee-way sections (the bee-space being here provided in the section, not the separator) our $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. by 2 in. weighs not less than 16 oz. when properly filled, and that our $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. by $1\frac{5}{16}$ in. averages more nearly 16 oz., some weighing more and others less. Allowing $\frac{1}{8}$ in. as the thickness of the wood, and $\frac{1}{4}$ in. as the bee-space between the face of the comb and the separator, the cubic contents of comb in the 2-in. section will be 24 cubic inches, and in the $1\frac{5}{16}$-in. section 23 cubic inches.

A comb of honey to weigh 16 oz. ought therefore to contain from 23 to 24 cubic inches.* Employing the same data, a $4\frac{1}{4}$ in. by 5 in. section, $1\frac{5}{8}$ in. wide as Mr. Lamb proposes, is found to be capable of containing only 21·375 cubic inches of comb, and would certainly, when filled, average much less than 1 lb. in weight. If the sections were $1\frac{11}{16}$ in. wide, the calculated cubic contents of comb would be 22·5625 and the average weight would probably be a light 1-lb. If the sections were $1\frac{3}{4}$ in. wide, the calculated cubic contents of comb would be 23·75 cubic inches, and the average weight would probably be a full 1-lb.

From the above I think that Mr. Lamb's section ($1\frac{5}{8}$ in. thick) is without doubt too thick, and I should recommend the $4\frac{1}{4}$ in. by

* As a matter of fact, a solid block of honey this size would probably actually weigh a good deal over 1 lb., because pop holes are not allowed for. In comparing a $4\frac{1}{4}$ in. by $4\frac{1}{4}$ in. section with a $4\frac{1}{4}$ in. by 5 in., the average of pop holes would be much the same, so they need not be taken into consideration.

5 in. by $1\frac{11}{16}$ to $1\frac{3}{4}$ in. as the size in a bee-way section which those who are interested in this question should give a trial during the coming season.

We have now to consider the no-bee-way or plain form of the tall, thin section. With these a specially constructed cleated "fence" takes the place of the ordinary separator, and provides the necessary bee-space between the combs; the sections being narrower than those with a bee-way, while the face of the comb in the former is raised almost to the level of the edge of the wood. It is claimed for the plain sections that they take up less room in a travelling crate and are easier scraped, besides looking better than a bee-way section. Just how much difference there is in width between a bee-way and a plain section weighing the same, and of the same outside dimensions, is still apparently unsettled. It depends, of course, on the stoutness of the cleats on the separators. For some little time the A. I. Root Company have been making cleats $\frac{3}{16}$ in. stout. One of these cleats on either side reduces the width of the section by $\frac{3}{8}$ in. It is, I believe, stated by the A. I. Root Company that a plain section to weigh the same as a bee-way one should be $\frac{3}{8}$ in. narrower; but practical testing by weighing seems to indicate that the difference should not be so great. This is, perhaps, partly due to the fact that the fence separator is composed of slats, with spaces between them, through which the bees can pass from one compartment of sections into another.

Mr. Lamb apparently considers $\frac{1}{4}$ in. as the difference in width between a plain and a bee-way section, but perhaps he uses a thinner cleat than that made by Messrs. Root. With a $\frac{3}{16}$-in. cleat the difference seems to lie somewhere between $\frac{1}{4}$ and $\frac{3}{8}$ in., and $\frac{5}{16}$ in. is probably near enough. This would make $1\frac{3}{8}$ to $1\frac{7}{16}$ in. the correct width for a plain $4\frac{1}{4}$-in. by 5-in. section when a $\frac{3}{16}$-in. cleat is on either side of the fence.

I very cordially support Mr. Howard's request that there should be a class at the Dairy Show for 1-lb. sections other than those of the ordinary $4\frac{1}{4}$-in. by $4\frac{1}{4}$-in. size. Like Mr. Howard, I also have found full sheets of foundation in sections more helpful than starters.—F. W. L. Sladen, *Ripple Court, near Dover, March* 1.

SOME ESSEX NOTES.

[4269.] *Size of Sections.*—It is said that Irishmen alone can claim the right to speak more than once upon one subject, so if you allow me to reply to the Rev. R. M. Lamb, I must regard it as a special favour. I must congratulate Mr. Lamb upon the ability he has shown as an advocate, but he has drawn so largely upon America and things American—even for his "ladies"—that I must remind him that America is not England; therefore, the conditions under which bees are kept in America are so entirely different to those of our average seasons as to make comparison useless in this country for practical purposes. The American is one to whom showy acts and tall speeches seem to be indispensable. But though sober utility takes precedence of appearance in this country, the value of appearance is by no means ignored; indeed, I think we usually demand or expect I decently good appearance with any article purchased, if attractiveness in looks is not placed before utility and natural neatness; but I think *utility* or quality should have pride of place. Some years ago a good exhibit of 1-lb. sections were described as "beauty unadorned." These words are, to my mind, just as applicable to-day, but more so when beauty and utility are in combination. Unfortunately, however, for the section of "more taking appearance" that Mr. Lamb would have us adopt, he has failed to show that there would be an equally well-proportioned combination of utility and neatness such as we have in the $4\frac{1}{4} \times 4\frac{1}{4} - 2$-in. section. He says (on page 73) customers would have to be informed that the narrower comb is of fair thickness; but customers usually want to satisfy themselves that they are getting a full 16 oz. of honey. He would also, according to Mr. Lamb, have to mention the superior quality of the wax in the thinner section. I think the customer would take this with a grain of salt. Besides, would he withhold the fact that, though the wax should be superior, there is more of it?

The shallow-frame is much in evidence, to illustrate Mr. Lamb's contentions in favour of a new size of 1-lb. section, but the relationship of the shallow-frame to the 1-lb. section is so distant that I think such a comparison is of very little value. It is common knowledge among bee-keepers that the quicker bees do their work the more perfect their work is—*i.e.*, sections of whatever size are both better filled and better sealed. Now, if shallow-frames are used, the bees can hang in festoons from side to side of the super, forming one single big cluster that fills the super, and every bee in such super is aided in its work by the heat generated by the one large cluster of bees. While, if 1-lb. sections are used, be they square or tall, the bees are divided into a number of small clusters, thus rendering the same amount of heat much less helpful to the bees in their work of comb-building and sealing, and progress much slower as a matter of course. I very well remember the useful educational work done by Mr. Lamb at the Yorkshire Agricultural Society's Show some years ago. I, too, have experimented largely with shallow-frames, with a view to saving labour, both for the bees and myself, by getting the bees to build thick combs. Unless we adopt the plain, or no-bee-way section of what use is it to hang 1-lb. sections in a frame and expect the bees to do better than now? And if the plain section is

used there will still to a great extent be three separate clusters of bees in each frame. The no-bee-way section finds no favour with me. When filled it affords the honey no protection whatever. I have a decided preference for the two-bee-way section. As to the question whether dividers hinder the bees, I admit that anything in the nature of a partition will be to some extent a hindrance, but I must allow experiences in the past to caution me against tempting the bees. I have removed supers of 1-lb. sections for people who keep bees who have no place for anything, whose dividers are not to be found at supering time. So the racks of sections have been put on without them, and the result has almost invariably been that half the sections were quite unsaleable, one being bulged on one side, the next one having a thin comb weighing 10 or 12 oz., the next bulged on both sides, and weighing about 20 oz., and so on.

Although Mr. Lamb has, in my opinion, failed to prove the need for a new section no doubt some good will come out of the discussion of this subject. For myself, I am more than ever satisfied that hitherto our bee-keepers have not done all that is possible to secure really good sections of the 4¼ in. by 4¼ in. size. Mr. L. can only think of two disadvantages in using a thinner section; one of them is that the Southern bee-keeper would not have the show-bench so much to himself. But "the cap doesn't fit." As a Southern bee-keeper, I may say that only once have I exhibited 1-lb. sections outside my own county and my own district, except on the border of an adjoining county. Mr. Lamb, among quite an array of advantages claimed for his new section, says (No. 15): "Less apparatus necessary, shallow-frames being available for either comb or extracted honey, thus helping cottagers." We are thus asked to believe that a frame sufficiently wide to cover the 1-lb. section and keep it clean could be used just as well for producing honey for extracting; but in practice a wide frame for the latter purpose is one of the most inconvenient things imaginable, because the difficulty of uncapping such a wide frame would make a combination frame of this kind a hindrance rather than a help to the cottager. If our friend can get a thousand of such sections as he recommends, and get them well filled, they will supply an attractive exhibit in the classes for "interesting and instructive exhibits" at the coming shows. Besides, no better way can be found to convince bee-keepers that a thinner section will benefit them. — Wm. Loveday, *Harlow, Essex.*

BEES IN NORFOLK.

MY SEASON'S ACCOUNT FOR 1900.

[4270.] I made my first acquaintance with bees when in 1899 I purchased eighteen stocks, and as I have just finished my accounts for 1900 I send you a few extracts therefrom, in the hope they may possess interest for other readers. I lost one stock through starvation during the winter, leaving me with seventeen at date of writing. My total take of honey was 250 lb., all of which was of good quality, and most of it has been sold at 10d. per lb. Of course a portion was used at home and some given away, but to December 31, 190 lb. had been sold for £7 17s. 1½d. As I had difficulty in obtaining appliances last year I became local agent for a firm, and in this line have sold £8 15s. 10d. worth of bees and materials, while the the value of my stock has increased by £5 16s. 4d. On the other side the expenses have reached £5 15s. 5d., leaving a profit of £14 4s. 10½d. Of course I pay nothing for labour, as all bee-work is done by my wife and myself. These figures appear small beside those of old hands, yet to me they are gratifying as showing that if keen interest is taken (with no other assistance than the "Guide Book" and Bee Journal) bees will pay in money and amply repay with pleasure any work bestowed on them.

I had three swarms only during the year, two of which I sold and one was united with a weak stock. I lost one lot last autumn through "robbing." It was a weak lot in a "Wells" hive, and, although it rained in torrents at the time, the marauders persevered until night.

Amongst plants visited very much by bees I particularly noticed the hyacinths, clarkia, and Michaelmas daisies. I have a large number of the latter, and they are well worth cultivating as a bee-plant.

On Wednesday of this week I went to see a stock of bees; they are badly affected with dysentery. I shall treat as per "Guide Book." I also called to see a friend's. As soon as I removed the roof, I found there were no quilts or covers of any description except the roof. The sealed stores were scarce, but the bees were numerous and strong. Such treatment shows the hardihood of bees, I think. It is fair to say the owner was too ill to visit his bees, hence the state in which I found them. May I add I am engaged in the "rural pursuits" of which correspondents have been writing, and find that of fowls, pigs, bees, and garden, the bees give the most pleasure and profit compared to the outlay. During the summer I am busy, as I "give an eye" to fourteen stocks besides my own at ten different places.—W. J. Belderson, *Lynn, Norfolk.*

THE B.B.K.A. APIARY AT SWANLEY.

THE APPEAL TO APPLIANCE DEALERS.

[4271.] In B.B.J. of January 17 last you inserted an editorial appeal on behalf of the B.B.K.A. apiary at Swanley to bee-appliance dealers for hives for the apiary, and in response I forthwith instructed my works foreman to dispatch one of my "W.B.C." hives to the apiary at Swanley. Probably other bee-appliance dealers responded also. I

do not know whether others received any acknowledgment of their gift; I have had none—not even a postcard. My friends Messrs. Jas. Lee & Son are, I see on page 81 of last B.B.J., to receive a letter of thanks from the secretary of the B.B.K.A. I do not, of course, grudge them that, and doubtless it is a simple oversight that I was not included; but what one is surprised at is that of all our bee-appliance dealers we two only have responded to the appeal.—GEORGE ROSE, *Great Charlotte-street, Liverpool, March* 4.

BEE BUZZINGS.

WIDTH OF SECTIONS.

[4272.] I am much obliged to your correspondent Mr. Lamb for bringing this matter forward, and am inclined to think there are advantages to be derived from the proposed change; but let us "make haste slowly." If we could have wide frames to fit the present shallow bodies and sections of such a size that three would fit into the said wide frame, surely such a simple change would involve no great risk, more especially as such frames could be used either for the sections or for extracting. The only additional outlay would therefore be represented by the difference between the cost of an ordinary shallow-frame and the proposed wider one—an outlay so trifling that it need not be considered, even if the new sections proved of no advantage; and as both sizes of sections would no doubt be worked for some years there would be no need to break up the present-use racks for firewood, as Mr. Woodley predicts on page 81.

I admire the positiveness of "D. M. M.," Banff (4264, page 87), but is not that correspondent rather severe on Mr. Lamb? The latter, in speaking of the new section, cannot, of course, do so with the same certitude that other correspondents can of the old one. It must not be expected. And then to twit Mr. L. with what he wrote some years ago is, after all, rather absurd. Mr. Lamb is wiser now than he was then, and what is the use of experience if not to give truer and wiser conceptions of what is most desirable and right. "When I was a child, I spake as a child," &c., &c., &c.

I was pleased to read Mr. Rymer's interesting papers on how to prevent swarming. His experience is another commendation of the "W.B.C." hive. His system is, of course, not altogether new, for with the exception of the slotted adapter, Mr. Cowan has mentioned it in the "Guide Book" for years, though, perhaps, more as a successful system of honey-production than swarm-preventing. After all though, the two things go together. —"BUZZER," *Glos., March* 4.

P.S.—Perhaps John Bull does like a *thick* comb in the section, as Mr. Kibble states in page 83, but does he not also like a section filled to edges all round?—"B."

SHEFFIELD AS A BEE DISTRICT.

[4273]. Referring to the query of "W. P." (2549, page 90), I would say, Wortley—the district about which your correspondent inquires—is very distinct from Sheffield. The latter is a very bad district for bees except on the west side of the town. Wortley, which is some ten miles away, is, on the whole, a favourable locality. It is rather cold and exposed, but there are large woods in the neighbourhood which are a valuable source of early supplies in the spring; while on one side of the district there it an abundance of heather. There is also a good deal of white clover in the pastures which cover the whole parish. If, however, your correspondent is situated three miles from the heather districts I am afraid that source of supplies will not be of much use to him.—J. J. BALDWIN YOUNG, *Claxby House, via Lincoln, March* 2.

VILLAGE LECTURES ON BEE-KEEPING.

[4274.] I was sorry to see by our friend Mr. Franklin's letter (4258, page 78) that with regard to lecturing experiences his lines seem to have fallen in other than pleasant places. In our village, I am pleased to say, there is no difficulty whatever in getting the young people to attend a lecture, of which we have had several this winter on various subjects, all well attended. If we can get a lecture, the audience is sure to come. Perhaps the residents in Mr. Franklin's neighbourhood have heard so many lectures full of copious "nothings," that they prefer the fireside to the lecture-room. Mr. Franklin's letter seems to convey the idea that I advocated the delivery of lectures by any one—qualified or not—so long as they were furnished with printed "notes." Nothing was further from my mind than that.

But I venture to say that it is far better to have full notes on paper containing some well-thought-out ideas—along with interesting facts for a general audience—than to deliver a lot of copious "nothings" extempore or from memory. Lantern slides for a single lecture to a mixed audience should, I think, not be of a too technical character, which only practical bee-keepers could understand. They should be a combination which would include items instructive, interesting, curious, and humorous in character, so as to suit all hearers and all tastes. If the lecture was entirely devoted to practical and theoretical bee-keeping, none but a skilled expert should attempt to give it. Slides of the kind first mentioned would require some notes attached explaining where and how and when they were taken, &c. It would be interesting to have the opinion of other bee-keepers on this subject. Doubtless there are many who would not hesitate in procuring a full lecturing outfit, with notes for use in lecturing; and, in conclusion, I again

say that I think it would be a real boon if the Council of the B.B.K.A. could undertake to provide this.—G. A. BARNES, *Pickering, Yorks, February* 25.

ANCIENT BEE-BOOKS.

"The Ordering of Bees, or the True History of managing them from time to time, with their hony and waxe, shewing their nature and breed. As also what Trees, Plants, and Hearbs are good for them, and namely what are hurtfull: together with the extraordinary profit arising from them. Set forth in a Dialogue, resolving all doubts whatsoever.

"By the late unparalell'd experience of John Levett, Gent. London, 1634."

[Opposite the title-page a woodcut of a straw hive on a stand, with bees on the wing and walking on the board. Also this distich:—

"He who by bees doth ever thinke to thrive
Must order them, and neatly trim his hive."

4to.; 71 pages, besides preface, index, &c. Roman character throughout.—"S. D. E."]

[4275.] Judging by dates of publication, there are certainly two important bee-books which should take precedence of Levett's. But, as already pointed out by "A. A. H." in B.B.J. (4164, page 481), Samuel Purchas tells us that "Master Levit," the grandfather of the publisher, had written the book at least fifty years earlier, so that its place would be at about the end of the sixteenth century, and prior to the "Feminine Monarchie." It would appear, however, from the dedication, that the author was the publisher's father. "Among others, the Author of this Booke, Father to my selfe and it, was a scholler of this schoole," writes John Levett.

Levit and Levett are obviously the same individual. These were the golden days when every writer spelt as he thought best, and nobody make mistakes. Shakespeare signed his name in various ways, and our present author appears again in a book by Hartlib, almost a contemporary, as Levets.

The "Posthume Orphling" is dedicated "to the vertuous gentlewoman Mrs. Dorothy Kemp, wife to the right worshipful Mr. Robert Kemp, Esquire, one of his Majestie's Justices of the Peace in the county of Northfolk." "Most vertuous and kinde," says the author, "I here present unto your hands and view, this Treatise not great, of a subject in seeming small, indeed full of greatnesse and glory . . . . the exquisite perfection of this little Flie," &c., &c.

A preface is supplied by "his admirer" (the celebrated) Gervase Markham. It concludes:—"And he that in this Art will looke beyond this, let him looke beyond the Moone, I will neither lend him mine eyes nor my recommendation." What more could an admirer say? Markham edited many works on farriers, agriculture, &c., between 1568 and 1637.

The book before us is not remarkably interesting. It praises Southerne's book, and mainly consists of criticism upon it. The dialogue is between Tortona and Petralba, the former being the teacher.

Levett agrees in the main with Southerne as to the breeding of bees, but thought that drones must be males "because all experience doth teach that never any bees were, or can be without Drones; and therefore without all doubt nature hath created them for some principall use: and I nor no man can perceive any greater than this, or as almost fit for little or nothing else." He quite knew "the King or Master Bee," and says of Southerne "wherein he sheweth exceeding ignorance in that thing, and I therefore imagine that he never saw a Master Bee." . . . . "Concerning the number of them in a hive, I dare not determine anything for certaine: yet do I think that one has the principal command, if they agree and prosper well: their young ones or spat are bred in their own houses or cels, and not amongst the other Bees, as I have often seene." . . . . "The Master Bee hath a sting as well as the rest, yet more for ornament than use. . . . . He hath a select and particular guard of choice officers or surpreme Commanders, as Generalls, Lieutenant Generalls, Marshalls, Sergeant Majors, Colonels, and Captains &c."

Levett recommends feeding in moderation when bees are starving in the spring; prefers straw for hives—no use "dressing" a hive; had not tried Southerne's plan of feeding a pig in a skep, but thought there must be something in it; considered "ringing of basons, or such like," to be at best "a very ridiculous toy." He joined a second swarm or castling to another like unto it by throwing the second on to a board and putting the first over it "late in the night" to avoid fighting; and he thought "Master Southerne's" objection to two self-joined swarms was "a mere conceit."

Poor "T. H. Londoner" comes in for another scolding. "Master Hill, who indeed like a forward gentleman published his experiments at first sight, as he did the setting of wheat, and many more phantasticall toyes, without due proof, good probability, or sure ground of reason."

It is interesting to learn that humane ideas were beginning to be put forward, although they did not find favour with John Levett:—"Some hold opinion that it is a great pitty to kill the Bees that have laboured so for us. . . . Hath not God given all creatures to us for our benefit, and to be used accordingly as may seeme good unto us for our good? Is it not lawful for us, to use these silly creatures in such sort as they may be most for our benefit, which I take to be the right use of them, and the very end of their creation?"

So this matter of fact bee-master of the olden days drove his bees into a large skep late in the evening. He shook the bees out, laid a broad board upon them, and trod upon it, "and so presently killed them all."

Three hundred years have passed by since the words I have just copied were written. And in this our new century of vaunted humanity I could not reproduce them, knowing what I do, without a sense of shame.—SOUTH DEVON ENTHUSIAST.

BEE-KEEPING IN YORKSHIRE.

[4276.] As a reader of the B.B.J. for over four years, I have passed many an enjoyable half-hour over its pages, and but for being such a busy man, I would often send on a line about the bees. I have a large garden with hives all over it, besides an out-apairy three-quarters of a mile away. I also manage apiaries belonging to local gentlemen and clergy scattered all over the county, all of which jobs keep me at work twelve hours a day. In my various perambulations I have removed bees from trees, house-roofs, walls, chimneys, and never yet been unsuccessful when allowed a free hand. Having read with keen interest the discussion as to size of sections, I do not think the present 4¼ in. by 4¼ in. section requires any alteration. Like our old friend Mr. Howard (4263, page 86), I have tried different sizes of sections and find none answer better than the present one, and if we have a good thing, why alter it for the sake of change? It would be a costly undertaking for some of us, so many things would need altering or renewing; it is therefore useful to find so many perfectly satisfied with the old 4¼ in. by 4¼ in. section.—E. J. THOMPSON, *Gowdall, Snaith, Yorks, March* 4.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
FEBRUARY, 1901.

Rainfall, 1·49 in.	Sunless Days, 9.
Heaviest fall, ·42 in., on 4th.	Below average, 37·2 hours.
Rain fell on 9 days.	Mean Maximum, 38·7°.
Below average, ·45 in.	Mean Minimum, 28·5°.
Maximum Temperature, 52°, on 25th.	Mean Temperature, 33·6°.
Minimum Temperature, 20°, on 16th.	Below average, 4°.
Minimum on Grass, 11°, on 12th & 16th.	Maximum Barometer, 30·57°, on 15th.
Frosty Nights, 22.	Minimum Barometer, 29·08°, on 4th.
Sunshine, 58·2 hrs.	
Brightest Day, 16th, 6 hours.	

L. B. BIRKETT.

Echoes from the Hives.

Boyfield House Apiary, Moulton, Spalding, March 2.—Monday, February 25, being a delightful day (sun shining and the bees merrily humming), I had a look in our hives just to see how they fared for stores. Most of them were found to be very short, and will, in consequence, have to be fed to keep them alive. I saw brood in thirteen hives out of fifteen, one colony having as many as five frames with brood in their combs. On the whole the bees have stood the winter well up to now.—SIDNEY SKIPWORTH.

Queries and Replies.

[2596.] *A Beginner's Queries.*—I would be glad to receive answers to the following questions through the B.B.J.:—1. What is the width of the "Standard" frame top-bar? 2. Is there a limited space between floor-board of hive and bottom of frames? and between side of frames and hives? 3. Is there a Bee-Keepers' Association in Durham or Northumberland? If so, could you give me the name of Secretary? Though only a beginner in bee-keeping, I have learned a good deal by reading the BEE JOURNAL. I look forward to its coming every week with pleasure, there being always something new and interesting in it.—H. HARMER, *Gateshead.*

REPLY.—1 and 2. We print your queries as written, mainly for the purpose of enforcing the absolute necessity that every beginner in bee-keeping should provide himself with a reliable guide-book, if success is to be hoped for. No one can expect to learn bee-keeping from reading the BEE JOURNAL, as is shown by our correspondent's want of knowledge of the most elementary principles of the art in his first and second queries, and so, beyond saying in reply that the space is not only limited, but must be measured with careful accuracy, we advise him to procure a guide-book, and read it carefully through. He will then know all about hive measurements and size of standard frames, besides acquiring other knowledge which is indispensable to queens. 3. Mr. James Waddell, Wooler, is hon. secretary of the Northumberland and Durham B.K.A.

[2597.] *Dealing with Foul Brood.*—Could you kindly allow an old reader space for a few notes in your valuable B.B.J.? My stocks last season showed decided signs of foul brood and I am anxious this season to eradicate the disease entirely if possible. To this end I am destroying all spare combs by melting them down for wax and using the frames for firewood. Some of the shallow-frames also that have contained brood are sharing the same fate. So far, so good; but how best to treat the combs now in the hive and containing brood and bees is quite another matter, for there are at least three methods by which the desired end could be attained:—1. By inserting from time to time, as room is required, a frame of foundation, working the old combs to the side and removing them one at a time as the brood

hatches out. But by this method, as both new and old combs would both be in the hive at the same time, it is feared the new combs would run a great risk of becoming contaminated before all the old ones were removed. 2. In April or May brush all the bees off the combs, confine bees for forty-eight hours, and destroy the combs, putting bees on to full sheets of foundation. This would be a very drastic, though perhaps a more effective, method than No. 1, but it would involve the loss of a deal of brood. 3. Allow the stocks to swarm naturally, and to this end, as the season advances contract the size of hives to eight or ten frames, so as to cause swarms to issue early in May, or, better still, in April, if possible. As soon as swarm is hived remove parent stock and let the swarm take its place, so as to get with the swarm as many as possible of the flying bees. At night the swarm could be confined and treated for foul brood before being placed on foundation. The brood in parent stock would then be allowed to hatch out, and as soon as young queen had commenced to lay two or more of such lots could be united or otherwise treated, as considered best, and the old combs destroyed. Hives would, of course, be scrubbed and also scorched with blow-lamp. As there are, no doubt, many of your readers besides myself anxious to get rid of foul brood, perhaps you would kindly say which of the proposed methods you prefer, or whether you approve of either. Would you also please say whether, in your opinion, it is an advantage—when treating bees for foul brood—to place the bees for a few days on starters only before giving them full sheets of foundation?—T. W. T., *Glos., March* 4.

Reply.—We should at once discard the first-named method, seeing you cannot hope to effect a cure while leaving diseased brood in the hives under treatment. With regard to the second and third plans proposed, very much depends on the present condition and strength of the respective colonies. It is against all rule to expect stocks to swarm early if diseased. But if they are so slightly affected as to be found strong in bees, and could be reasonably expected to be got up to swarming point in May, the third plan would be the most effective and likely to end in success. If you could send us a piece of diseased comb, and let us know how many combs the bees cover at the present time, we will advise more definitely later on.

[2598.] *Re-Queening Stocks.*—I intend re-queening my hives this year by killing the old queen and allowing bees to re-queen themselves. I therefore ask:—1. Will the first hatched-out queen become parent of the hive, or will it be necessary for me to destroy all queen-cells except one? 2. When would be the best time to kill old queen? 3. Would bees work as well if queenless during honey-flow? 4. Where can I procure phenyle, as advised in "Guide Book," for spraying combs, and to what extent should it be diluted?—Rex, *Mold, March* 4.

Reply.—1. Yes, the first hatched queen will destroy the others. 2. Immediately the honey-harvest draws to a close, and, of course, before drones are killed off, say about middle of July. 3. No, they would lose time after losing queen, and become more or less demoralised for several weeks. 4. Messrs. Morris, Little, & Co. prepare solution as in "Guide Book."

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Pax Vobiscum (Surrey).—*Moving Bees in March.*—If carefully packed, so that—while guarding against the escape of bees—the frames are kept rigidly in position to avoid rocking, there should be little risk in moving a stock of bees from Bucks to Surrey this month. In fact, it is as favourable a time as any. We should not rely on "cording" the hive to floorboard; far safer to fix it down with a couple of screws. It is also advisable to put the hive in guard's van yourself, if at all convenient, and give instructions as to care in handing over to porters.

J. G. S. (Cranbrook).—*Candy-making.*—1. The sample of candy sent is quite useless as bee-food, being hard as a stone. It has been overboiled, and may be truly described as "hard-bake." 2. Honey sample is coarse and rank in aroma and flavour, reminding us of a blend of horse-chestnut and privet honey. It is not suitable for table use.

F. J. (Mountmellick).—*Candy Feeding in Early Spring.*—1. If the bees are taking soft candy well, we advise keeping up the supply until you can examine the combs to ascertain how the bees are off for stored food. 2. Liquid food is not suitable so early in the season as this. Candy is best.

C. B. Collier (Horrabridge).—*Foreign Bees.*—1. We can only refer you to the particulars given in the advertisement, as we have no personal knowledge of the special bees named. 2. There are no justifiable grounds for saying that "Foreign bees bring foul brood with them."

S. J. Brooks (Finchley).—*Bees not doing well.*—We fear the district is not favourable for bee-keeping, or else your stocks need looking to by a competent bee-keeper, to account for the failure. Perhaps some reader who has local knowledge of Crouch End, Finchley, will send a word of reply regarding our correspondent's failure?

*** *Sheffield as a Bee District.*—Referring to query in last week's issue on the above, Mr. F. Bramhall, Attercliffe, near Sheffield, writes:—"Wortley, near Sheffield, should be favourable for bee-keeping. There is a deal of white clover about and plenty of heather within reach of the bees" (*vide* 4273, page 97, in this issue).

Editorial, Notices, &c.

LINCOLNSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting was held, by permission of the Mayor, in the Guildhall, Lincoln, on Saturday, March 2, at 3 p.m., the President, the Right Hon. Lord Heneage in the chair. The meeting was fairly well attended, though the rough weather prevailing doubtless kept many members away, the country roads not being in a fit state for the "friendly bike."

Among those present were G. J. Young, Esq., J.P., Rev. J. F. Lane, Rev. C. S. Nevile, Miss J. Brewster, Mrs. G. T. Pilkington, Miss Ada Morley, Dr. Percy Sharp, Messrs. J. Emerson, H. C. Spain, J. F. Andrews, H. Pears, J. Hall, R. T. Warrenter, J. W. Wilson; Messrs. A. J. Banks, J. S. Pearce, and D. Seaman, experts, &c., and R. Godson, hon. sec.

The annual report, which was read, stated, among other items, that the Association was still in a flourishing condition the total membership numbering 554, and that the work of the past year had been satisfactory, though the season had not been a good one. The report also expressed regret that no grant had been made by the County Councils of any of the three divisions of the county in aid of bee-keeping, and that foul brood was still prevalent in several places in the county.

The finances of the Association are, however, satisfactory, the total receipts, including a balance of £19 brought forward, amounted to £159 0s. 8d., and the expenditure to £137 8s. 5d., leaving a credit balance of £21 12s. 3d. Four new districts have been formed during the year, there being now forty-nine districts with local hon. secs. in each. The report and balance-sheet were adopted on the motion of the Chairman.

Mr. Percy Taylor, having been compelled to resign the office of auditor, received a hearty vote of thanks for his past services. Mr. G. Booth Walker, Wainfleet, was elected in his place.

This concluded the general business, after which Mr. J. H. Howard gave an excellent and interesting lecture on queen raising. The meeting concluded with a drawing for prizes consisting of bee appliances presented by Viscount St. Vincent and others.—(*Communicated.*)

NORTHAMPTONSHIRE B.K.A.

ANNUAL MEETING.

The eighteenth annual meeting of the above Association was held on Saturday, March 2, in All Saints' Schools, Northampton. Mr. W. L. Bird presided over an average attendance. The report, read by Mr. R. Hefford, Hon. Secretary, stated the past season had, on the whole, been a very moderate one. The Committee thank the donors of prizes, also the gentlemen who officiated as judges at the annual show on August 6, 1900. Outdoor demonstrations were given at fifteen places during the summer by Messrs. Truss, Perry, Bird, and Hefford, which proved of considerable interest. The report and statement of accounts were agreed to. The election of officers for the ensuing year then took place, the appointment of President for the year being left to the Committee. The retiring Vice-Presidents were re-elected, with one exception, J. Jeffery, Esq., being substituted for C. G. A. Drucker, Esq., M.P.; R. Hefford (Hon. Secretary), Kingsthorpe, Northants; G. E. Atkins (Hon. Treasurer); Hon. District Secretaries and Committee:—Messrs. J. R. Truss, Ufford Heath; W. Manning, Northants; J. Francis, Northants; J. Perry, Banbury; H. Collins, Berry Wood; O. Orland, Flore; G. Page, Holcot; W. Winterton, Wellingborough; F. J. Old, Piddington; C. Cox, Brampton. It was decided to hold the annual show of 1901 early in August at Kingsthorpe. The meeting closed with the usual votes of thanks.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of February, 1901, was £1,327.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4277.] As we are now nearing mid-March, and shall within a week have the sun above the horizon for twelve hours, our attention will be directed more and more to the outside work in the apiary. I have again started the drinking fountains for the bees, and whenever the sun shines these water-troughs are crowded with bees. I believe that having water within a few yards of the hives is a great saving of bee-life just now, when numbers are required to maintain the warmth of brood-nests and thus help to build up strong stocks for the honey-flow. Then, close to, I place artificial pollen in old skeps containing a wad of fine wood-

shavings, on which is sprinkled from a dredger a mixture of flour and pea-flour. The bees are revelling in the skeps, dusty as millers, and carrying off the artificial pollen merrily to the hives.

Extra wraps may now be added with advantage above the brood-nests, and hive-entrances reduced to about 1½ in. wide where stocks are weak. Strong colonies with plenty of food can generally look after themselves, and happy is the bee-keeper whose apiary is full of such stocks.

Size of Sections.—I advise those who are preparing a trial rack or two of the new shape sections not to discard "fences" or dividers, as I feel sure they will be disappointed with the results if they do so. With regard to thick combs; some years ago when prizes were offered for glass supers of honey, I used to work some every year, and by lining out the crown of the supers with narrow strips of foundation in star pattern I have had wedge-shaped combs of honey 6 to 7 in. thick at the outside of the wedge and no brace combs built from one comb to the other, but just the ordinary bee-space between the faces of the combs. The contents of super weighed about ¾ cwt.; this great thickness of combs bees built when left to their own devices with abundance of room at their disposal and no dividers in their way. As an old exhibitor with twenty years' success—being awarded during that period more, I believe, premier prizes for comb-honey in sections than any other bee-keeper in the British Isles—I can assure Mr. Lamb that we southerners would be delighted to feel that an advance was really being made in the production of comb-honey, and when the new section has made its appearance on the show-bench and has once beaten the old style, our North-country brethren may depend upon it we shall not be left behind in its adoption. But to adopt the system of hanging sections in shallow-frames in the hope of getting them more quickly or better filled will, I think, end in disappointment for those who try it on. Mr. Howard points to another fault in the tall sections; those bee-keepers who storify four or five racks high will find the tall section still add to the height of the pile and thus remove the supers further from the brood-nest.

Improving the Stock.—In our excitement over the adoption of the "new section," do not let us overlook the improvement of our stock; the healthy, hardy, industrious strain, the long-tongued hustlers after honey, the strain that can work on red clover and complete the racks of sections or shallow super-boxes, while other strains are vainly searching for honey in the drought-ridden fields amidst the few scattered white clover blossoms. Then, as other stock-breeders give special attention to the "sire," let us also not forget the same item in bee-life, for the very existence of our craft depends on their vigour and virility. We ought, therefore, to strive after producing some of the finest specimens of drones obtainable in nature, aided by the wit of man. Yet, year after year, we preach "full sheets of foundation for the brood-nest" all worker size, forgetting that the natural instinct of the bees will induce them to raise some drones even if they have to do so in elongated cells of worker size. How can we expect these puny drones reared in such cells to extend or increase the good qualities of our stock? I throw out these "pointers" hoping it will raise a helpful discussion by the masters in the craft. We may depend on this fact, that good strong colonies of hardy, industrious (long-tongued) bees will do more towards realising our ideal, "the well-filled section," than the alteration or extension by ¾ in. in its height, and a few eighths or sixteenths in its thickness.—W. Woodley, *Beedon, Newbury.*

SECTION RACKS.

CAN THEY BE IMPROVED UPON?

[4278.] I have been very much interested in the discussion that has been going on in Bee Journal *re* tall and square sections. I certainly think the tall ones would have a better appearance on the exhibition table than the square ones, but when the comb-honey is cut out and placed on a nice glass dish I think the thick combs would more than hold their own.

The main reason why I write, however, is to see if we cannot improve the section-rack now in use, so that we can get sections of any shape better filled.

I have been thinking over the matter for some time, and I now venture to lay before your readers the result of my meditations, not without some fear and trembling.

The rack I purpose making will be double walled on two sides, same as a beehive. The usual length for twenty-one sections, and 15½ in. wide outside measure, with a space of about ⅜ in. between the walls; the inside wall to be slotted every 2 in. *plus* thickness of divider. I intend to work with four bee-way-sections and slotted dividers.

To allow the bees to get up into sides of rack, I will nail the two outside laths—on which the sections rest—1 in. from inner wall of rack, so that they will have two more passages into sections than they have in the present form of rack. Advantages claimed—(1) Heat of hive more evenly distributed through all sections; (2) direct road up sides of hive into sections; (3) bees clustering at side of rack will keep it warmer; (4) bees entering from sides of rack, the outside sections are more likely to be filled as soon as the middle ones; (5) easier to pack up warm when two or more racks are on, as there are no projecting ledges as in those mostly used.

I am aware there are already some racks made without projecting ledges, in which the bees can cluster all round sections. I tried

one, illustrated in BEE JOURNAL as long ago as June, 1888 (vol. xvi., page 300), but the sections were so soiled with the bees crawling round them that I did not use it a second time. With the one I propose the sections will all be protected, except 1 in. at each side, and this being on bottom of sections will not matter much.—JAMES FINLAY, *Whitehaven, March* 8.

P.S.—I omitted to say that the outside wall must be ⅜ in., or thickness of lath on which sections rest, deeper than inside wall—that is, outside 4⅝ in., inside 4¼ in., assuming that laths are ⅜ in. thick, but I suppose they should be a shade less

SIZE OF SECTIONS.

[4279.] I am glad to announce to all who have taken interest in our discussion that its first object—to thoroughly ventilate the subject and draw together those who felt the want of a better section—has been attained. I need hardly say I took the initiative in the debate because I was urged by a strong conviction—the result of many years' experience—that the present section was unsuitable to our climate, and the time was favourable for attempting a change.

More than a year ago I came to the conclusion that a thinner comb was necessary for commercial purposes, from my own observations, independently of the valuable work done in America. And it was only in December last that I discovered that many of the largest and foremost bee-keepers there had come to the same conclusion. This coincidence seemed so important that I forthwith decided to try and open up a discussion, so that bee-keepers might have the advantage of hearing what could be said for or against a change and acting accordingly. I was gratified to find so much unanimity amongst those who thought a change desirable and especially to learn that Mr. Sladen's views as to the size of the new section for trial were so similar to mine.

He has the honour of taking the first practical step in ordering some thousands of size 5 in. by 4¼ in. by 1⅞ in. (bee-way). As I understand they will reach us within a month, there will be ample time for all who secure some from the first consignment to prepare supers for them before the coming season. Mr. Boxwell, of Patrickswell agent of Messrs. Root & Co.), will also probably receive thousands of the same size "plain" *i.e.*, 1⅞ in. thick shortly afterwards. We can therefore cordially invite all who feel inclined, though they may have failed before, to take a step further and give the sections a fair trial. Together with friends in Yorkshire I hope to deal with from 3,000 to 5,000.

Next courtesy and justice demand a notice of the correspondents who have written since my last article appeared.

For Mr. W. Woodley's benefit I would repeat that I am positive that at least 20 lb. of honey is lost by the use of eighty 2 in. sections, simply because of their thickness: so that if any one can tell how many tons of honey-comb is produced in the United Kingdom he can soon calculate how many tons will be gained by a suitable section.

Then if Mr. W. remembers the present sections being finished sometimes in seven or eight days, he may with confidence look forward to a narrower section being finished in a day or two less under the same circumstances.

When the advantage of a proper change is fully appreciated, the regret will be not so much that some old apparatus has to be burnt, but that they were not burnt years ago.

In Mr. J. H. Howard's experience the present section has held its own. But knowing its deficiencies, he is not going to relax his efforts to find a better receptacle. He hits the nail on the head when he says, "It remains for the modern bee-keeper to bring his sectional supers as near to the conditions of the shallow-frame body as is possible."

That is the great problem we have both thought over for some time, and now we are striving with [the prospect of a good chance for its solution early this century. I thank him for his bright, encouraging words and hope his perseverance will be well rewarded.

Mr. D. M. M., Banff, has still an opportunity to win his spurs. He told us how he surpassed Yorkshire bee-keepers in getting his bees to take to five racks of sections at a time. This is good as far as it goes, but we are hungering and thirsting after further knowledge. How many sections were completed? If most, did it occur only in a good season? For if it was an exception, there would still be room for the trial of another section. But if he succeeded in getting most finished in most seasons he has a strong position and has every reason to nail his colours to the mast, and stick to his guns with the hope of victory. —RICHARD M. LAMB, *Burton Pidsea, Hull, March* 9.

SOME ESSEX NOTES.

[4280.] *Wax.*—It is pleasing to see the very considerable quantities of beeswax that have been offered for sale in the advertisement columns of the BEE JOURNAL recently. I sincerely hope this is a sign of more thorough bee-keeping; by thorough, I mean necessary attention to turn supplementary products of the hive to account, instead of tossing the old combs and odd pieces of comb into the corners of the apiary and garden to be an eyesore to every visitor with a liking for good bee-keeping. Good bee-keeping includes the rendering of wax and anything else that can supplement the principal product of the hive-honey, also keeping the apiary tidy. Rendering wax is certainly a messy job, and it is a job that hardly any one likes till it is finished (how is this for Dutch?), but when the job is done a little good wax, compared with honey, makes

a good price, and it is taking the money for a lump of good wax that usually brings a liking for wax rendering. Another thing that is worth referring to in favour of wax is that if the comb and capping are kept as much as possible from the air, and out of reach of moths, wax-rendering may be done in the quiet time during the late autumn and winter.

Pollen.—I saw the first pellets of pollen carried in by my bees yesterday, March 10, quite a month later than is usual in this district. But it is an ill wind that blows no good, the bees were unable to rest during the first half of the winter, but severe weather has enforced rest, though at a time when the bees would have preferred gathering pollen. Rest in winter is beneficial to bees, though, as we see, they cannot always have what is best for them just when we would like them to have it. To be able to realise the value of the hazel as a pollen-yielding tree, it is only necessary to place a few twigs of it, clothed with catkins, in a vase, and the pollen that will fall from the catkins will, I think, convince anybody.—Wm. Loveday, *Hatfield Heath, Harlow, Essex, March* 11.

ALTERING SIZE OF SECTIONS.

ARE THE ADVANTAGES WORTH A CHANGE?

[4281.] Referring to the discussion on the question of altering the size of sections, before this is done may I be allowed to ask, Are the advantages, if any, worth it? The public has now been educated to a standard size section, and before any change is made we should first of all consider the question of cost in producing a special section for which there is at present little demand. The ordinary $4\frac{1}{4} \times 4\frac{1}{4}$ section is now made by the million; consequently Americans are able to turn these out very cheaply; whereas, with a section other than the stock size, the cost of production would be considerably more. Again, a section—weighing 1-lb. when filled—with a larger surface would take a larger sheet of foundation to fill, thus again adding to the cost. Besides, narrow sections when filled with honey have such shallow cells, that the midrib of the comb would be particularly noticeable when being eaten, no matter how thin the foundation used, and thus the objection of some consumers to the wax in midrib of comb would be increased.

I think Mr. Lamb advocates a deeper section with no bee-way and worked in special frames with separators, something after the style of a "W.B.C." hanging-frame. But this also will be an expensive way of supering. I do not think a shopkeeper would give more for a tall section than for a square one; while, with regard to bees taking to a tall 1-lb. section quicker than the ordinary size, my experience is that they will take to almost anything when honey is coming in freely. I should be the last to throw cold water on any progressive step in bee-keeping, but in this case, instead of lessening the cost of production—which we all wish to do—I am afraid it would do just the thing we wish to avoid—viz., add to it.

With regard to the B.B.K. apiary at Swanley, I, like other manufacturers, sent a hive, and its receipt was duly acknowledged. I did not wish to advertise the fact, but I quite agree with Mr. Rose's protest against only one maker being thanked through the Bee Journal, which is apt to lead readers to believe that only one firm responded to the appeal to reconstruct the apiary at Swanley.—E. H. Taylor, *Welwyn, Herts, March* 7.

(*Correspondence continued on page* 106.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The name of the Rev. Dr. Bartrum—though less prominent in the B.B.J. now than a few years ago—will be familiar to older readers, not only as a valued contributor to our pages, but as one of the most hard-working members of the B.B.K.A. Council for many years. We were very pleased to receive the following full "notes" to go along with the view of his apiary on next page, and hope our esteemed friend's interest in bee-keeping will continue:—

"My friend Mr. Hooker besides being a bee-keeper is, like myself, fond of fruit-growing. It may not be known that we are all indebted to his father for introducing the famous Diamond plum, so remarkable for its colour, size, and productiveness. He and I spent many happy hours this last summer in irrigating my garden, opening channels, turning the water into the celery beds, then turning it off, feeding large standard trees and so on. But Mr. Hooker's highest enthusiasm, I think, is just now devoted to photography, in which art he excels. I was not aware that he had photographed my apiary, and also sent the picture to the B.B.J., for (to confess what I feel) I do not think it a model by any means. The Editor, however, in sending a 'proof' of the photograph, has asked me to write something to accompany it in print; so I comply. First, then, I fear critics will see several weak points in the arrangements as shown. The hives are too crowded—but we have no more room to spare. The demand for Essex honey is great, and the bees *will* swarm at times, though we desire no increase of stocks. It's a mistake of course to crowd the hives, but life often compels us to choose between two evils, and the wise man takes the lesser. Then, to my annoyance, the grass was too long, but labour in the country districts last year was very scarce and time most precious.

"But what is this tree, the stem of which is so prominent a feature of the foreground? When I saw it in the picture, my thoughts reverted to Péradeniya, the botanical garden

near Candy, in Ceylon, with its wealth of palm-trees of every kind ; for I fancied I had lighted on one of those marvels of the East seen in their perfection in the most wonderful garden (I should think) in the world. It is worth one's while to go to Ceylon if only to see the marvels of Péradeniya. Nay, the tree is no palm ; it is one of many Early Prolific plums, planted not so very long ago, as may be inferred from the leathern band encircling its stem to prevent injury from friction of the cord attaching it to the adjoining stake. Irrigation and lime, together with a good aspect and a good soil, have worked wonders, and the tree already bears good crops. The tree in the centre, surrounded by the hives, is a mulberry, which ten years of careful training have brought into something like good shape. It is useful not only for its leaves and fruit, but as affording grateful shade in hot weather, and a refuge at times from an angry bee. The aspect of the apiary is south-east ; a belt of trees behind protects it on the north. The hives (I am afraid) look rather like a race of mongrels ; some are old, if not antiquated friends, and a few possess the serious fault of having their entrances so shaded that it is not easy to see what is going on. Nothing, in my opinion, is more important than being able to see at once what is taking place at the entrance of a hive. 'Robbing' may be in progress unseen. The love of 'looting' may spread, and the consequences be disastrous in spring or autumn.

"We work chiefly for sections, but since at times there is a demand for extracted honey some of the hives are supered with shallow-frames. The 'Weed' foundation and two-way 4¼ by 4¼ sections are what we prefer. I fear that in practising thrift we do not use as much new foundation as we should. Indeed, I think that one-third, at least, of the combs should be renewed each year, and in this way the risk of foul brood is certainly lessened. With any number of wild colonies in roofs, houses, trees, and barns around, I cannot but believe that there will always be danger of contagion. The use, however, of naphthaline inside the hive, and during the robbing season at the entrances, a most important precaution, fumigation of the bee-room, with every article opened and exposed to the action of sulphur for twelve or twenty-four hours, and the thorough cleansing of the hives in winter time, as recommended in the 'Guide Book,' ought to make an apiary fairly safe. When the weather is warm in summer we, when needful, set a lad to watch in case swarms come out unexpectedly.* By 'we,' perhaps I should say, I mean my gardener and I. He has been a bee-keeper (as every gardener ought to be) for years. We try to prevent swarming, as far as possible, by expansion—new combs, additional

THE REV. DR. BARTRUM'S APIARY, WAKES-COLNE RECTORY, ESSEX.

* I had a fine lecture from a very good lady for posting a boy-guard one Sunday during service time. He had a chair and the *Sunday at Home* to read, but she would not take the excuse.

racks, extraction of comb-honey, and so on. No doubt very much may be done by giving room in advance of the bees' requirements, and by the prevention, if possible, of that excessive heat which often compels the bees of crowded hives to hang out. This is a point which some of your correspondents seem at times to overlook. We also raise the outer cases by putting flat pieces of wood under the four corners and giving ventilation at the top. Do what we may, however, nature will not be wholly cast out, nor, in my opinion, will swarming ever be wholly checked. We sometimes join two or three swarms together on ten frames with a rack of sections overhead, followed by one or two more in a few days should the weather be fine. Then follows the cutting out of all queen-cells but one when a hive has swarmed. Yet one cannot be always sure from which hive a swarm has issued. This process of cutting out queen-cells involves both time and trouble when several hives require dealing with. A pail of cold water is always kept at hand when important manipulations are going on. If the hand be stung, it is dipped at once (after removal of sting) in the coldest water we can get; then the effect soon passes off. We are great believers in cold water, inside and outside. If I am stung on face or neck, after the sting is out a sponge filled with cold water is applied at once. This remedy is very simple and very efficacious. I am fortunate in the annual visits of my friend, Mr. Jesse Garratt, whose reputation as a bee-master is well known. Nor must I omit to mention the excellent expert of the Essex B.K.A., who has the sense not to disturb the hives without good reason, and so is always welcome."

CORRESPONDENCE.

(*Continued from page* 104.)

SINGLE *versus* "WELLS" HIVES.

[4282.] Referring to the letter of "D. M. M., Banff," (4264, page 87) on "Single *v.* 'Wells' Hives," I fail to see where his remarks prove that the latter hive must take a second place. Had the "Wells" hive been worked on the same ground and within reach of the crop secured by "W. H., Hereford," and "Mr. A. Muir, Kirkcowan," and then if the "Wells" hive failed to give a better result he might then have had just reason for his remarks, but not otherwise.

Mr. Wells and myself have, I think, many times proved that a single-queened stock cannot give the same return if worked side by side with a "Wells" hive and collecting from the same crop.

Having just received Messrs. Root & Co.'s Price List, I notice they are open to receive orders for Mr. Lamb's new tall section. I am inclined to favour these sections, but prefer to leave these and the "Wells" hive to be worked by bee-keepers who fancy them. I might also mention it does not pay me to work for clover sections; but I am open this summer to take up clean drawn-out sections from healthy stocks for the moors.—J. H. Horn, *Bedale, Yorks, March* 11.

BEES AS REFLEX MACHINES.

[4283.] In "Comptes Rendus de l'Académie de Paris," vol. 131 (1900), pages 976-8, Abraham Netter directs attention to the numerical and geometrical regularities to be noticed in the life and labours of bees, and points to a number of facts, such as the results of shifting the hive, which point to the conclusion that they are automatic reflex machines. Amongst the many curious questions he asks, the following one may be taken as an example:—"Whether the hexagonal mosaic of the eye may not be associated with the plan of the combs?"—R. Hamlyn-Harris, *Stazione Zoologica Naples, Italy, March* 7.

Note.—The above has been gleaned from the February number of the *Journal of the Royal Microscopical Society of London.*—R. H. H.

MUSINGS IN MY BEE-GARDEN.

A WINTER DAY.

[4284.] It seems a poetic fiction to classify February as one of the spring months. The truth of the old adage, "When days begin to lengthen the cold begins to strengthen," has been exemplified this season, for hitherto the winter has proved an open and mild one, and though "November's surly blast laid fields and forests bare," the grey face of Nature has looked wonderfully fresh, with here and there an "inlaid mosaic" of green to brighten the lone landscape. Multitudes of hardy gowans have here and there shown their bright dark eye of pure white or crimson-tipped corolla to gladden the eye, and in the garden quite a number of spring flowers have blossomed into untimely bloom. The true months of winter have gone without once colouring the ground with a coat of soft and seasonable snow.

In these days of early February, however, nature has been suddenly transformed as if by the hand of an enchanter, and to-day the landscape is one unbroken expanse of dazzling white, stainless snow, pure and unsullied as yet. Hoary flakes, downy and fleecy, are still falling and covering everything as with a vast winding sheet. The snow, "the beautiful snow," has fallen silently in the night, and the hitherto bare boughs, down to even the tiniest twigs, sustain a heaped-up pile of one or two inches. What things of beauty even the dull and sombre spruce and pine have become with their loaded branches bending down almost to the breaking point with the weight of powdery white! Not even a breath of air disturbs the quiet serenity or wafts away the soft and slumberous snow

which is woven artistically into the shape and fibre of the branching trees, looking as if the work of some enchanter, at whose magic touch what was yesterday the dull and commonplace has been transformed into something exquisitely lovely, and fit for a scene in a fairy dream. And the silent snow falls slow but sure, adding to the fast accumulating pile. Great flakes fall with soft and gentle wavy motions, as if uncertain where to light and loath to leave the regions of air for the grosser domain of earth. How they float and linger aloft, how they sway and almost pause in their downward course, determined to continue an individual existence as long as possible before they ultimately become one of millions! There they lie at last, their pure white forms united in one commingled mass, all unsullied by contact with things of earth. Well they deserve, as yet, the appellation of "virgin" snow, though soon to be discoloured with a thousandstains. Looking up towards our "Ben" we see it towering aloft, piercing the clouds, one mass of pure, stainless snow, while the lesser hills roll down in wavy undulations all spotless, their rough, unhewn dark boulders, their giant grey precipices, their deep brown canons and black tarns all invisible because obliterated by the magic transformation of the snow god. Even the poets have taught us to view winter as "gloomy," but on such a morning as this who could dream of sadness or gloom when all around is such artistic loveliness, "all like a dream, if like a dream to flee?"—

All the wide land is glittering in a fresh and strange array;
Naked trees have got snow foliage—soft, and feathery, and bright—
And the earth looks dressed for heaven in its spiritual white.

No sound of busy life is heard, as all the highways are blocked for traffic and silence reigns supreme; a gentle hush of calm prevails all round, and even the tones of my voice at ordinary pitch reverberate and re-echo in the still and rarified air. Yon sheep dog's bark, though far away, sounds as if nigh at hand, and the shepherd's whistle sounds clear, shrill, and ear-piercing, as if he, too, were near, whereas a wide space separates us. Beside me a gentle "peep, peep" breaks the stillness, and, quite familiar grown, one of our crimson-breasted feathered friends, the amiable robin, hops near. If he warbles now it is with "a slender note and more than half suppressed." He, like the other fowls of heaven, finds that "their pantry door is locked and the key lost," so he pays to trusted man his annual visit, coming up frank and free to pick up the crumbs thrown him by willing little hands for "Robin knows the children love him when he comes." Nor is he my only visitant on this snowy day. Here is a solitary Jenny Wren, "that shadow of a bird," the heroine of the nursery tale. More gentle and less pert than Robin, yet less sociable than he of the red breast, she keeps more out of reach, seeking for insect life amid the bare boughs, and will not be tempted down. There, even 'mid the snow, she "pipes her perennial lay." Up in the warm cover of our ivy hosts of sparrows find shade and shelter all the year round, and to-day a small flock of them, tempted and attracted by the crumbs, come down in a free-and-easy way and help themselves as coolly as if all belonged to them. This bird seems so hardy as to bid defiance to frost and snow, and is ever lively and cheerful. The "impudent" sparrow makes himself at home anywhere, and wherever fowls are fed he will make sure of a hearty meal. One solitary blackbird comes out of his quiet retirement in the shade of the shrubbery, and perches aloft on the fence at a little distance, saucy but shy. What a contrast his black and funereal coat presents when set off against the pure white snow, and his bright yellow beak looks quite handsome as he snaps at the crumbs thrown towards his hungry grasp. Flocks of black crows, too, are seen winging their flight along the vale, eagerly scanning the landscape for something to make a meal. All else of animate nature seems to be fast asleep.

So, too, are the bees, for most of the hives are objects of faith and not of sight. I know they are there, but the snow has covered them up as with a mantle. Others are in part seen, being covered up to well nigh the roof, while the snow covering it towers up aloft, lying as it fell, a load of feathery flakes looking wonderfully artistic in its construction of domes and minarets and towers. Of course, the bees are prisoners, but, I doubt not, they rejoice, as I do, that no biting blast can reach them, but that they, like their owner, can sit by the "ingle neuk," warm and snug, when Boreas blows his biting blast.

Winter,

I love thee, all unlovely as thou seem'st
And dreaded as thou art,

sings Cowper, and to-day I re-echo the strain. —F. E. I. S., *N.B.*, *February 6.*

ANCIENT BEE-BOOKS.

"A new Orchard and Garden, or the best way of planting," &c., &c. "With The Country Housewife's Garden for Hearbes of common use," &c., &c.; "As also The Husbandry of Bees, with their general uses and annoyances, all grounded on the Principles of Art, and precepts of Experience, being the Labours of forty-eight yeares of William Lawson."

"Printed at London by Bar: Alsop for Roger Jackson, and are to be sold at his shop neere Fleet-street Conduit. 1618."

[Accompanying the title is a woodcut of men pruning, digging, and putting in cuttings in an orchard. Mottoes: "Skill and paines bring fruitfull gaines," and "Nemo sibi natus."

Quarto. Twenty-five pages besides dedication, preface, and index. The above twenty-five pages in black letter.—S. D. E.]

[4285.] We may say of William Lawson's book that it is practical, and that being

addressed especially to housewives it should at all events be interesting to our lady experts. It is dedicated to the Right Worshipful Sir Henry Belosses, Knight and Baronet. I pass at once to Chap. x., which deals with "The Housbandrie of Bees."

"There remayneth one necessary thing to bee prescribed, which in mine opinion makes as much for ornament as eyther flowers or forme, or cleanlinesse, and I am sure as commodious as any of or all the rest, which is bees well ordered. And I will not account her any of my good housewives that wanteth eyther bees or skilfulnesse about them. And though I know that some have written well and truly, and others more plentifully upon this theame, yet somewhat have I learned by experience (being a bee-master myselfe) which hitherto I cannot find put into writing, for which I think our housewives will count themselves beholding unto me."

"As to the "generation of bees," Mr. Lawson would not commit himself:—"There are some conjectures of it. . . . I leane not on conjectures, but love to set downe that I know to be true, and leave these things to them that love to divine." As to drones, "I am of opinion that they are Bees which have lost their stinges, and so being as it were gelded, become idle and fat." He recommends catching them by hand.

Lawson is in favour of rows of straw hives in rectangular bee-houses, and he gives a sketch of them in compartments containing three. "Mr. Markham commends hives of wood—I discommend them not: but straw hives are in use with us. . . . Let none stand above three yeares."

To ring in time of casting is a mere fancie; violent handling of them is simply evill, because Bees of all other creatures love cleanlinesse and peace. Therefore handle them leisurely and quietly, and their keeper whom they know may do with them what he will without hurt." . . . "The cleanely Bee hateth the smoake as poyson, therefore let your Bees stand neerer your parler than your Bee-house or kitchen." . . . "They say sparrows and swallowes are enemies to Bees: but I see it not."

Many quaint expressions are to be found in the seventeenth century bee-books, but I think "the proud stock, pestred with bees," which is the subject of the following paragraph, is the very quaintest. It is on "clustering," or, as we should say, "hanging-out." "After casting time if I have any stock proud, and hindered from timely casting, with former winter poverty or evill weather in casting time, fitted for the purpose, I turne up that stocke so pestred with Bees, and set it on the crowne, upon which so turned with mouth upward I place another empty hive well drest, and spelkt, into which without any labour, the swarme that will not depart, and cast, will presently ascend, because the old Bees have this quality (as all other breeding creatures have) to expell the yong when they have brought them up. There will the swarme build as kindly as if they had of themselves been cast. But be sure you lay betwixt the hives some streight and cleanely sticke or stickes, or rather a board with holes to keep them asunder: otherwise they will joyne their workes together so fast that they cannot be parted. . . . This have I tryed to be very profitable for the saving of Bees."

The above method of dealing with overstocked hives is much the same as will be found in Butler's "Female Monarchie," except that the idea of separating the two hives by means of a perforated board seems to be Lawson's own. Priority in this is of some consequence, because the idea was taken up later and became the basis of hive improvement up to a comparatively recent date, if, indeed, traces of it do not still linger with us. And yet, to conjecture here is somewhat idle, for at the period we are considering bee-books had, as it were, just sprung into life, and each writer had to deal not only with his own rule-of-thumb practice, but with the traditions of his forefathers, so that the real parentage of ideas must remain obscure. Apart from this question, we must recognise in Butler's work a scholarly touch and a resultant orderly clearness that constitute the "Female Monarchie" for all ages to come a bee-keeper's classic; while to its author belongs the credit of having furnished the first important clue towards solving the deepest mysteries of the hive.

Lawson thus concludes:—"And it is worth the regard, that Bees thus used, if you have but forty stocks, shall yield you more commodity clearly than forty acres of good ground. And thus much may suffice to make good Housewives love and have good gardens and Bees." *Finis. Deo laus.*—SOUTH DEVON ENTHUSIAST.

FORM OF SECTION-RACKS.

[4286.] As Mr. Wm. Woodley is a large producer of comb-honey, I would like him to kindly say which rack he likes best in working for sections—the one that allows ¼ in. between each row of sections, or that in which the sections all close together without the T-rests?—G. R. K., *Yorks.*

SELLING BRITISH HONEY.

[4287.] My rather poor English probably caused your misinterpretation of my meaning as recorded in BEE JOURNAL of the 21st ult. So far from selling Dutch honey, I want to buy the English product, and knowing your integrity I asked for kind advice.

You would very much oblige me by naming a few leading British bee-keepers who may be wanting to sell their pure extracted 1900

honey fresh from the apiary. — KELTING'S, Eerste Ned. Handels-Byenstand (Holland) Zandpoort. Per G. and W. Henrig.

[We gladly give insertion to the above in view of what appeared in "Notices to Correspondents" on page 80.

Instead, however, of naming special producers we suggest that bee-keepers needing a market for their produce might correspond with Messrs. Kelting themselves, in which case our "Deposit System" of payment might be useful to buyers and sellers alike.—EDS.]

Queries and Replies.

[2599.] *Bees Fighting in March.*—May I ask for information on the following: 1. I take it that it is quite possible for bees to use sealed honey during winter. I do not see this mentioned anywhere. 2. Saturday, the 9th, being a sunny day, bees were flying strongly. Every now and then one or two bees came tumbling out of one of my hives, and after what seemed to be a fierce combat, one was left dead on the ground. What is the cause of this? I am enclosing you a few of the dead ones herewith. 3. Is it too soon to give peaflour as a pollen substitute? 4. I have only wintered four frames of bees in the hive referred to. All the combs appear to be well filled with sealed honey as far as can be seen without lifting the combs. Is it too soon to insert a frame of foundation in the middle, and if this is done at the proper time, and the stock gradually increased to ten frames, will this prevent swarming? 5. Is there any society from which a member can get information, attend lectures, &c. I have applied to the Secretary of the Yorkshire Bee Keepers' Association, and he informs me the advantage to be gained by joining is that *the entry fee for honey classes at the Yorkshire Agricultural Show is reduced to members of the Yorkshire B.K.A.!* This is not very helpful to one who, as yet, has only an elementary knowledge of bee culture, derived from the "Guide Book" and JOURNAL. I read in this week's JOURNAL of the proceedings of the Berkshire B.K.A., and also the Lancashire B.K.A., both of which appear to be conducted on a different and more helpful basis (to beginners) than the Yorkshire Society. I understood the subscriptions to a Bee Association would entitle the members to a visit from an expert; otherwise it would seem experience is to be gained by oneself alone. I quite appreciate the fact that practical work among bees is essential to success, but I am sure others, like myself, would be glad of a little advice, and an occasional visit from an experienced bee-keeper. I must say the "Guide Book" seems to fill every requirement, but after all, knowledge derived from books is not practical experience.—A. B., *Huddersfield, March* 11.

REPLY.—1. Sealed honey is the natural food of bees at all times. 2. The symptoms described point to "robbing" as the cause, and you will find this trouble fully dealt with in the "Guide Book." 3. March is the usual month when pollen-feeding begins, but the safest guide for starting is when the bees begin to gather natural pollen. 4. Yes, far too early; a weak stock needs nursing till the bees cover six frames before inserting sheets of foundation or spreading brood as proposed. 5. There must be some misunderstanding here, as the advantage of membership always covers more than is stated above. Besides, there are also several active district bee-associations in Yorks, of whom you could hear by writing to the Hon. Secretary of the County B.K.A.

[2600.] *Renewing Combs.*—On looking into one of my hives the other day I found the frames of comb are very black and irregular, and are, I suppose, three years old. The queen was driven from them in the autumn, and they must have raised a new one, as they worked all right and sealed over their stores. 1. When should I begin to get these frames renewed? 2. Could I give them frames with part unsealed honey in them from last year or sheets of foundation? 3. When I make the change, should I give them candy, or syrup, or some spare honey?—J. H., *Holywood.*

REPLY.—1. When the bees are numerous enough to cover five or six frames and weather is warm enough to start the bees foraging. 2. If the object is to renew combs, foundation must be given. 3. Soft candy is the most suitable in spring, until such time as bees can fly daily, when syrup-food is best.

[2601.] *Queen Laying Several Eggs in One Cell.*—In looking through a three-frame nucleus hive to-day, which I suspected of being short of stores, I found two small patches of brood, but in some cells I noticed two and three eggs in the same cells, some in a bunch and in others one at each side of the cell, and in others the eggs were normal. I suppose that would denote a virgin queen, but the capped cells appeared to be perfectly in order. I noticed this peculiarity last autumn, but the bees increased in numbers, and now nearly fill three frames. A reply through your esteemed paper will be appreciated.—S. SMETHURST, *Stretford, March* 9.

REPLY.—The cause of erratic laying is probably owing to the queen's overcharged ovaries and there being too few bees in the nucleus hive to cover all the eggs she desires to deposit in the cells. If a few young bees could be added from another stock the mischief would cease, as it will when more bees have hatched out to keep the brood warm.

[2602.] *Spacing Frames.*—A brother bee-keeper and I have a friendly argument on the under-noted points, and your reply to the following queries will be esteemed:—1. In giving a swarm full sheets of brood-foundation

is it necessary to space the frames 1¼ in. from centre to centre, using "W.B.C." ends, one behind the other? 2. By leaving the frames in their normal position (*i.e.*, 1½ in. from centre to centre) and giving full sheets of brood-foundation would drone-comb be built?—J. H., *Ayrshire, N.B.*

REPLY.—1. It is not by any means absolutely necessary to space frames at the 1¼ in. distance when hiving a swarm, though it is advantageous to do so when less than full sheets of worker-foundation are used. It should also be borne in mind that the narrow spacing only continues until the combs are fully built out. 2. Not always, but bees will at times insist on having a few drone-cells, even if they build them on worker-cell foundation. They will, however, always build drone-comb in the space left between lower edge of foundation and bottom bar of frame.

[2603.] *Transferring Bees to New Hives.*—I am writing you with reference to four stocks of bees which I wish to transfer. They are now in single-walled hives, full of bees, and are on standard frames, but I am anxious to transfer to new "W.B.C." hives. Should I be running any risk by lifting frames with bees from one hive to the other, providing this is done before this month is out, or perhaps you can suggest a better way, bearing in mind that my object is to prevent swarming as much as possible?—S. TEMBLETT.

REPLY.—If a warm day be chosen, when bees are flying freely and the frames are transferred without any unnecessary delay, there will be almost no risk in removal with a little care. You could lift two frames together and with very little disturbance.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** Referring to *Bee-keeping near London*, MR. D. H. DURRANT, Pine Cottage, Ealing Green, W., writes:—"In answer to your correspondent S. J. Brooks (page 100) I should not think Crouch End very favourable for bee-keeping in these days of bricks and mortar. The bees would have to fly too far for their supplies. North End, Finchley (about three miles farther along the line), would be a better place. If Mr. Brooks would like me to see his bees for him I should be pleased to run over and set him right if he will pay railway-fare and send me his address."

F. BEYNON (Chester).—*Press Cuttings on Bee-keeping.*—1. We cannot give you the title of paper from whence the cutting is taken. Why not inquire of the sender? 2. It is obviously a non-technical paper so far as regards bee-keeping.

R. H. (Yorks).—*Suspected Comb.*—There is distinct evidence of foul brood in comb, and of the hive having been affected for some time past.

F. ALLEN (Hants).—*Killing Wax-Moth Larvæ.*—It might help to clear matters up if you told the chemist referred to that the article was copied from an American bee paper, or, better still, show him the article in question.

M. W. (N. Leeds).—*Bees Found Dead in March.*—The comb contains nothing worse than old pollen and unsealed food. No "grubs" as supposed. Regarding the cause of death, there is nothing in comb to account for it, but the three dead bees sent are suggestive in diagnosing the case. One is the queen bee, another an undersized drone, and the third an aged worker. The queen has evidently never been mated, and the drone has no doubt been reared in a worker cell. In other words, after swarming twice, the stock has been headed by a drone breeding queen, and the "about 200 bees left" are aged bees, the offspring of the parent queen which issued with the first swarm from the old hive.

W. MARTIN (Ruabon).—*Bees Perishing in Winter.*—The bees in comb sent have died from want of food. They also show signs of the hive having been far from rainproof. It is obviously a case of death from famine and want of needful protection.

T. H. P. (Norfolk).—*Moving Bees.*—We cannot estimate rail charges for moving twenty hives of bees. The company should be asked about charge for a 10-ton coal truck such as you propose, which would be large enough for the purpose if properly packed and secured.

GEORGE REMMER (Yorks).—*Nucleus Hives.*—For a three-frame nucleus about 6¼ in. suffices for the frames and allows for a strip of wood at each side to provide lateral space for lifting frames out easily.

NORTH YORKS.—*Honey Samples.*—Of the three samples, No. 2 is by far the best. It is good in colour, aroma, and flavour. No. 1 is an inferior honey, having a singular flavour and aroma we cannot account for. No. 3 is better, but nowhere approaching No. 2 in quality. A chemical analysis of honey would probably cost you a guinea.

A. E. H. (Wallington).—*Suspected Dysentery.*—It would be unsafe to assume that the bees were suffering from dysentery without inspection of the combs in hive, unless the "brown-looking matter" is excessive. When bees have a good "turn-out" for flight in spring, the act of discharging the fæces often causes an amount of "specking" over hive fronts that would alarm any but an experienced hand. On the other hand, if the combs and frames inside show the same signs, it may be dysentery, but failing this, there seems no need for alarm.

*** *Several important letters and articles are in print and will appear next week.*

Editorial, Notices, &c.

LEICESTERSHIRE B.K.A.

The annual meeting of this Association was held at the Victoria Coffee House, Leicester, on Saturday, the 9th inst. Sir John Rolleston, M.P., presided, and there was a fair attendance of members. The nineteenth annual report stated that a moderate number of new members had been added to the Society's list during the year, but unfortunately this had been more than counter-balanced by loss of members from various causes.

The Committee desired to point out that the aims of the Society could only be carried out in proportion to the financial help received, and they urged upon the members the duty of pressing the claims of the Association upon their bee-keeping friends. It was only by the practice of strict economy that the Committee were able to carry on their work—a work which should commend itself to all engaged in agricultural and kindred pursuits.

The financial statement showed receipts for the year amounting to £58 14s. 9d., and an expenditure which left the Association with a balance in hand of £11 3s. 9d.

Sir John Rolleston, in moving the adoption of the report and balance-sheet, said he could congratulate the Association on the satisfactory progress it had made. He hoped the Society would continue to grow in popular favour, and increase in prosperity as the years went by. The report and balance-sheet were adopted.

The Duke of Rutland was re-elected President, and the Vice-Presidents were also re-elected, Sir John Rolleston taking the place of the late Mr. Brooks, and Mr. Maurice Levy, M.P., that of Mr. Johnson-Ferguson. The Committee were re-elected, Mr. Peach taking the place of Mr. G. O. Nicholson. Mr. H. M. Riley was re-elected Hon. Treasurer; Mr. E. J. Underwood, Hon. Auditor; Mr. J. Waterfield, jun., Hon. Secretary. The Association now numbers something like 190 members.

A distribution of prizes followed, and after tea Mr. P. Scattergood, of Stapleford, Notts, gave a practical and helpful lecture on "Foul Brood," and afterwards an interesting, homely talk, illustrated by coloured slides, on the "Relation of Bees and Bee-keeping to Flowers and Fruits."—(*Communicated.*)

LANCASHIRE B.K.A.

Reverting to the annual meeting of the L.B.K.A. (reported on page 91), and the vacant secretaryship, we are requested to state that Mr. Mottram has been elected hon. corresponding secretary, and M. F. H. Taylor (late hon. secretary), will undertake the duties of hon. organising secretary and treasurer for the present year.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

BEES IN SOUTH AFRICA.

EFFECTS OF HIGH TEMPERATURE.

[4288.] A remark of your contributor, Mr. Woodley, whose articles I have always great pleasure in reading, that tropical bee-keepers have summering in lieu of wintering to contend with, is so very appropriate at the present time that it has induced me, in spite of the normal temperature of 108 deg. in the shade, to say something about the condition of affairs out here.

The heat commences soon after sunrise, about 6 a.m., and the sun then catches the hives full in front, and farmers are hard at work, so I don't think much is done after about 9 a.m. The bees then come out and cluster below the hive, and as a breeze generally gets up during the morning, they are comfortable and often start comb-building there. I have never seen a queen in the cluster, but think she must go out, too. As the sun declines about 5 o'clock, the procession starts back again, but some remain all night, and the front is covered with them. Under these circumstances, of course, very little work is done, although the bees take in plenty of pollen in the early morning and evening; they do not seem to be able to make wax, as very little new comb is made.

Insects are, however, much more to be feared than the heat; hornets, spiders, ants, beetles, deathshead-moths, and the wax-moth make a combined attack on the unfortunate honey-bee.

These are not only destructive about the hives, but take a large percentage of the nectar from flowers, and lurk about the forage to capture the bees, so that it is quite impossible to protect them. This is the case with ants, who so swarm in flowers growing on the ground that I have seen the bees flying over them, and trying to get a sip without success, and spiders are always ready to pounce out from behind some attractive blossom.

The irritation caused by all this makes it by no means easy to examine hives, so some get weak, and then the wax-moth steps in, and you can write off a summer loss. In the winter, on the contrary, the bee has a gay and festive time.

When the hornets have caught the spiders and the ants retired from business into the lower regions, the weather is then perfect, comfortably warm, with cloudless sky and cool breeze, flowers galore in the fruit trees,

and nothing to trouble the even tenor of the hive life; work goes with a swing, and they seem to say, Here, come along with that "clearer" and let's get on with the next rack! —A. C. SEWELL, *Durban, Natal, Feb.* 11.

SIZE OF SECTIONS.

[4289.] In his last letter (4279, page 103) the Rev. Mr. Lamb mentions my name as about importing—for bee-keepers to experiment with—the new no-way section $4\frac{1}{4}$ in. by 5 in. by $1\frac{3}{8}$ in. for use with fence separators, the object being, if possible, to find a section in which bees will store as much honey as they deposit in frames for extracting and so save to the section-comb producer at least quarter of his income, now going to waste.

The sections have been ordered and are to be packed in boxes holding 250 sections and fifty fences in each box. The fence separators are to have passage-ways cut through the two inner upright cleats to give the bees freer communication laterally from section to section, and the openings between slats give communication from one row of sections to those on other side of fence, while the unbroken opening underneath, extending from one end of row of sections to the other end, gives the bees almost as much passage-way from brood-frames to sections as is to be found between brood and extracting frames.

As Mr. Sladen has observed, this size section requires no change in the ordinary section-rack further than to tack on top all round a $\frac{3}{4}$-in. strip, so that every bee-keeper experimentally inclined can try it and report his findings.

The price of this section, Mr. Taylor thinks, will be higher than that of the ordinary 1-lb. section. This is only for a time, while special; when, or if, established, as it is narrower and requires less wood than the bee-way, it will be cheaper.

It requires $\frac{3}{4}$ in. more comb-foundation than the $4\frac{1}{4}$-in. section. This is now made with so thin a base that practically there can be no fish-bone or observable mid-rib, and the extreme cost is more than compensated for by the thick side walls of foundation given to the bees to draw out, and so save elaborating additional wax as in the thicker comb. The sections will be sold to dealers to distribute to bee-keepers, or to bee-keepers who take a full box of 250 sections at a time, with their fifty fence separators packed with them.—WM. BOXWELL, *Patrickswell, Co. Limerick, March* 18.

[4290.] In reference to Mr. Loveday's letter (4269, page 95), I would say that the matter of proportion in any argument is important, and his allusion to it fair. He thinks I have laid too great stress upon the appearance of the proposed new section. I should be sorry to do so, as it would lessen the force of my argument that a change was called for in order to secure the substantial gain of 20 per cent. more comb honey. Well, as there will probably be an opportunity of deciding in a few months which is the most attractive when the old and new are placed side by side, our friends have but to wait patiently. In the meantime I would ask all whether it is not just as true in England (and even in Essex) as in America that most of the things one sees, such as doors, windows, boxes, &c., are oblong and not square.

Next we come to something more solid. Mr. Loveday would have liked me to have brought more into prominence "the combination of utility and neatness such as we have in the $4\frac{1}{4}$ by $4\frac{1}{4}$ by 2 in. section."

Perhaps I can still do so if he will be so good as to tell me the exact points he alludes to in the expression, "such as we have." For his guidance he is welcome to take my list of advantages, or *utilities* (if he would prefer to call them), of the prospective section in comparison with the old.

I desire, above all things, that the most experienced of those who defend the present section should definitely state all they can in their favour so that the pros and cons. may be brought face to face.

Then he need not be afraid that the customers would not get a full 16 oz. of honey, as we could afford to give them 17 oz. or 18 oz. in a thinner section better than 16 oz. in the present. I do not think there is any danger of our adopting a light section. I, for one, would not agree to it. Such a one as I am advocating would be fair to the bees, the bee-keeper, and the customers. To fussy customers I would give all reasonable information; should any say they would take my remarks with a grain of salt, I would tell them that they are at liberty to take them with all the spices together, but I would recommend them to be taken with common sense. In order to get at the exact weight of wax in proportion to honey in both old and new sections I would suggest that Mr. Loveday take a good sample of each to an analyist to deal with, and let us have the results.

Mr. L. says the shallow-frame is much in evidence in my argument. That is true, but it was unavoidable, because it has been the field of my observations—a field wherein the bees are less hampered and divided, and therefore better for the study of their work. Here, comparing year by year supers of frames spaced at various distances and finding those spaced for thickest combs invariably behind the rest, and in most seasons unfinished and unsatisfactory I could come to no other conclusion than that our climate was unsuited for the production of the thickest honey-comb. Let me try and make this plain in another way:—Had a honey merchant visited my apiary in the middle of the summer five or six years ago and after seeing combs of various thicknesses, had asked me to quote the

price at which I would supply as much 2 in. thick combs in frames as my bees could produce, my price would probably have been 1s. a lb. Now, however, my quotation would be rather different. For the produce of one season I should be inclined to ask 1s. 6d. per lb., but if the order was extended to three or five seasons the price would be 1s. 3d. per lb. So much have I learnt since about one of the greatest factors in bee-keeping—the weather. If, then, the thicker combs cannot be produced in large quantities regularly in most seasons in frames where the bees have greater freedom, may not the thickness of our present section be detrimental to the production of a regular supply of honey-comb, and, further, may be the chief reason why the ordinary shallow frames are superior to sections in both yield and finish?

There is no occasion for any one to try and prove the need for a new section except to a novice. Those who have in moderate seasons secured a fair harvest in shallow-frames whilst the sections were a failure know that something is wrong. The numerous complaints in the BEE JOURNAL of the last ten or twelve years, the oft-recurring apologia for the feeble competition in the section-classes at the shows, aye, the very attempt at improvements, such as the "W.B.C." frame, and the trial of narrower sections, all point the same way, that something wants levelling-up. The 4¼ by 4¼ by 2 in. is, strictly speaking, not the standard section. Many have only tolerated it for years. In 1886 an attempt was made to induce the British Bee-keepers' Association to settle the question of standard sections, but it was wisely postponed. — RICHARD M. LAMB, *Burton Pidsea, Hull, March* 16.

CHANGING SIZE OF SECTIONS.

THE COST TO BEE-KEEPERS.

[4291.] The cost of altering the size of the 4¼ in. by 4¼ in. section is a matter for the consideration of hundreds of bee-keepers who work their apiaries on commercial lines, and who have to think, and think much, as to whether the change contemplated is worth the labour and expense it will involve. If we only consider the thousands of hives that have been spread over the British Isles and elsewhere by different manufacturers and appliance dealers in the last twenty years, and the work of altering racks to suit the new section for those hives, of discarding dividers and obtaining new ones, the cost of extra foundation (as Mr. Taylor pointed out, B.J., March 14, No. 4281), and in some instances an extra "lift" to the hives, also new travelling crates for those who send honey away to customers. Is the gain (if any) worth the change?

The two points which have been brought under discussion in the B.J. lately are—(1) more *completed* sections, and (2) a slab of comb-honey of a *better appearance*. With regard to the first point, the fault of the bee-keeper not getting his latter sections filled often is by having on too many racks at a time. When the honey-gathering season is passing away, and the vigour of the bees has begun to decline, he still persists in his policy of getting as much honey as he can from his bees, and does not give up his object until the fact stares him in the face that bee-work is done for the year. On the second point—viz., the appearance of a block of comb-honey—to my mind, a square block of comb-honey, 4¼ in. by 4¼ in. has the very best appearance and size of any shape for the purpose it is used for, viz., consumption (its usefulness after consumption need not be referred to here), and I cannot think that the appearance of a display of honey such as was staged at the Dairy Show last year would be improved by having a section of any kind out of the square.

I do not write to discourage any person who feels disposed to conduct experiments for purposes of change and improvement, but is the *extent* of the improvement aimed at sufficient?—JOHN BROWN, *Polyphant, March* 18.

UNDESIRABLE SWARMS.

[4292.] In view of the fact that we shall soon be in the grip of that "hardy annual," undesirable swarming, I do not think that any apology is necessary in drawing attention to a few points that have not, to my mind at least, been taken sufficient notice of in looking for a cure. In dealing with this subject it is important (having regard to the extensive advertising of them) that the disadvantages of non-swarming hives should be raised. It is, of course, usually considered that bees on supers of shallow-frames are less likely to swarm than if supered with a rack of sections; and yet all of these hives are based upon giving room by means of such frames in "underbody" supers. Now this can only lead to several evils. If the bee-keeper is only working, as so many are, for sections, this will give his bees plenty of employment no doubt, but not in the direction required. It will also leave him with a number of frames of comb, for which he possibly has no use, not to mention the cost of foundation. Also it will be invariably found that such frames contain more or less pollen so that if raised above body and extracted in the usual way the honey will, of course, be mixed with it. The combs cannot therefore be used, or only parts of same, for eating as comb honey. The colour of both combs and honey must of course therefore be darker than if in "virgin comb." More especially is this the case where the entrance is at the bottom, owing to travel stain. It seems to me, under these circumstances, that the non-swarmers have not reached the point aimed at, viz.,

how to keep a large colony from swarming when working for sections. Having this end in view, as one who has never had a natural swarm from any of his frame-hives, I am sending this in the hope that others will work along the following line this season, and in due course give us the result of such labours. I will start upon the assumption, far fetched as it may seem, that the greatest cause of undue swarming is the production of drones. This is usually touched upon but very lightly by most writers on apicultural topics, but not nearly so much, in my opinion, as the subject deserves, for the following (among other) reasons:—(1) The recognition that the depositing of a certain number of drone eggs is a natural function of the queen; (2) the bulk of the drones; (3) the unnecessary labour to the workers. To take these *seriatim* (1) I fancy that the veriest novice will say at once that the remedy is to have young queens only, as these do not want to lay drone eggs "until eleven months' old," except, of course, those sometimes laid previous to fertilisation; but, it is also necessary to remember, that the age of a queen is no criterion of how many worker eggs she will lay, but only the fact that her *effective* life to the bee-keeper is governed by the number of worker eggs she is able to fertilise. In regard to (2) it will be conceded that it is to want of room on combs that a great deal of the swarming "fever" may justly be attributed; if, then, we give room by removing the ineffective population, we shall conduce to this, more especially if it is remembered that we have to exclude drones, as well as queens, from supers, so that even if surplus chambers are added, we still have the body-box more or less congested. In regard to (3), it will readily be acknowledged that if we are seeking to get honey, any work not directly connected with this is, to say the least of it, undesirable. Having this fact in mind, it is now necessary, in view of a remedy for swarming, that in getting such cure we shall reconcile the apparent contradiction, *i.e.*, the queen wants to lay such eggs—we do not want the drones for keeping up heat for brood rearing, and above all we do not want the waste of time and comb-room given over to drone production. The remedy (among others) I therefore suggest, and which with me has been effective, is to give about the second week in April a drawn comb of drone foundation. This is soon used by the queen for depositing drone eggs. In a few days it may be removed, and the eggs and brood washed out under a jet of water, so that the comb may be used again. It may be necessary to repeat this about three weeks later in the case of old queens. The few eggs laid in odd places, on edges of comb, &c., will be found under this treatment to be fewer than ever, so that practically no drones will be raised. I may say that I only use "W.B.C." hives, and these of course help, as the double walls give a chance of such thorough ventilation as few other hives do. The value of the advice so often given in the B.B.J. to raise queen *after* the honey season is enhanced, to my mind, by the fact that the next year they are not old enough by the swarming season to lay a large amount of drone eggs, and so also tend to what it will by this be seen I am a believer of—a more thorough control of the production of drone-brood.—WILL HAMPTON, *Richmond.*

HAZEL POLLEN.

[4293.] I note that Mr. Wm. Loveday, on page 104, refers to hazel pollen, and rightly refers to the great amount of pollen a few catkins produce, as I have shown under the microscope at scores of lectures on horticultural subjects in Worcestershire and Warwickshire; but so far as my personal observations as a bee-keeper, extending over fifty years, I have never seen bees at work on hazel catkins. What is the opinion of others?

If bees would make use of hazel pollen, what a great help it would be to bees for a month or two before the willow pollen in the woods and hedges is ready to work on. The willow-palm is late this season.—J. HIAM, *Astwood Bank, March* 18.

NOTES FROM SOUTH SHROPSHIRE.

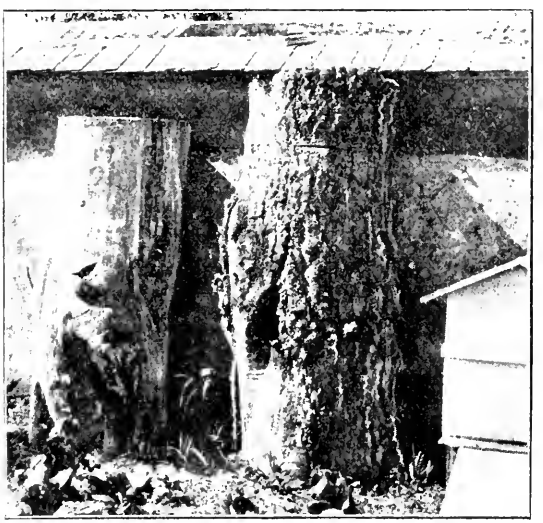
[4294.] I have been following the discussion on sizes of sections with much interest, and I cannot see any reason why a thinner section with larger comb surface should not be a step forward; but I think that Mr. J. H. Howard has hit the nail on the head when he mentions short way up. If we are to have sections taken to early we must not have them too deep, or the remedy will be worse than the disease. Now, if they are worked short way up—say 5 in. by $4\frac{1}{4}$ in., they would go into racks the other way across, with replacing slats, without making racks deeper. Does any appliance dealer stock sections 5 in. by $4\frac{1}{4}$ in. by $1\frac{3}{8}$ in. plain? I rather like the plain sections, but there is one fault with fence separator, the fences are too wide, and the bees are liable to fix the outside row of cappings to fence, and when they are removed, outside row of cells are uncapped. I think of bevelling the edges and see if that is any improvement.

The Rev. R. M. Lamb asks for information regarding a larger brood-frame. I beg to inform him that I have about forty hives with large frames (16 in. by 10 in.), and I have worked that size for over thirteen years and side by side with standard about eleven years, and I must at once say that I much prefer the large size for this district? I have had no experience with any other, but I know what I can do with standard frames in comparison, as I have fourteen in use now; each year, however, I reduce their numbers. My shallow-

frames are 16 in. by 5 in. having broken up my whole stock of 14 in. by 5½ in. two years ago, so you will see I can just nicely fit three sections in my shallow-frames with short way up 5 in. by 4¼ in., or can use 5 in. by 4 in. with a strip in frame. I am afraid 5 in. by 4 in. by 1⅞ in. plain section would hardly weigh 16 oz., that is why I previously mentioned 5 in. by 4¼ in. I have also tried wide spacing in shallow-frames but have abandoned it for 1⅝ in. (about). I neither use metal ends in brood-nests or shallow-frames but regulate distance by sight and find no trouble.—PHIL JONES, *Chelwick Valley, Church Stretton.*

CURIOUS HIVES.

[4295.] Having an hour to wait at Stockbridge Station recently, and knowing that Mr. Alfred Joyce, the Permanent Way Inspector, lived near the line, I thought I would call and have a talk about the bees. Fortunately, the good man was at home, and we were soon "on" about bees, hives, &c., after which we had a stroll round the apiary, and I must own when the curious hives, of which I send photographs, came in view I was amazed. My curiosity soon drew from my friend their history, and the story of how he had become possessed of them.



CURIOUS BEE-HIVES.

The tree-stump on the right in photo has been standing as it does now for the past six years; it cost its owner 5s. and half-a-day's hard work. The entrance is now about 2 ft. from the ground, but as the tree originally stood is about 6 ft. up the trunk, the tree itself being about 40 ft. high. Its owner, fearing his cattle might get stung, consented to have it felled, taking 5s. for the portion containing the bees. The tree was felled by cutting it off below the bees' entrance, and then cutting off the portion now shown, the entrance being merely stopped with a handful of cotton-waste, during the operation, on a cold winter's day. The curious hive was then wheeled home on a trolley.

Although it does not yield a record take every season, the combs reach right to the top, where in summer a bell-glass super is placed. But a splendid swarm can be reckoned on each year, which usually does good work in a bar-frame hive. The shorter hive was cut down at Andover, and brought a distance of eight miles by passenger train. In its present state its entrance is the hole seen about central, and it contains a strong stock of bees.

The tops of both hives are usually covered with sacking and zinc to keep out the rain; this, of course, was removed when the photo was taken. Through the large entrances the combs and bees can easily be seen. In one of them I could see two seams of bees quite close to the entrance even on a cold, frosty day in January, and in the summer the young bees can be seen biting their way out of the cells.

After a long chat I brought away the photo, and send it on hoping it might interest others, as the hives have interested me.

I feel I must add one word about their owner. Mr. Joyce is by no means oblivious to the advantages of living in the country. Besides his apiary of about twenty hives (all home-made) he has a nice little garden, laid out to the best advantage, with a small greenhouse, three or four pigs, a comfortable house, and a good wife. What more could one wish for to make life happy!—HAMPSHIRE RUSTIC, *Andover, Feb.* 1.

MR. RYMER'S ADAPTING-BOARD.

POLLEN-CLOGGED STORE-COMBS.

[4296.] I have been much interested in Mr. Rymer's description of his successful plan of bee management, and as I intend applying some of his methods to my working during the coming season, perhaps you will allow me to seek information on a few points through your columns, if Mr. Rymer will be good enough to give me a few words of reply. First, with regard to the "adapting board." I infer that this is used mainly to prevent brace-combs and to secure easy removal of surplus chambers. Is this board absolutely necessary? I can see that it will work well in double-walled hives, but with single walls

where this board is placed between body-box and surplus-chambers, the latter will be raised so much, that the ledges which are placed round its bottom edge, will not prevent the rain and wind from driving in around the exposed edges of body-box. In this case, would not an adaptor of zinc or tin be better than wood? Of course, made of strong metal, and cut in the same manner as the wooden adaptor. Another point occurs to me, I have in my store-room to-day somewhere between 200 and 300 empty shallow-combs, with not a cell of pollen in them; and I must say that I have visions, and not pleasant ones either, of 200 or so pollen-clogged mildewed combs in the place of these should I adopt Mr. Rymer's plan on a large scale. Will Mr. Rymer tell us how his empty combs keep during the winter, as I do not suppose he melts them all down at the end of the season? I invariably find mine foul and most unpleasant if packed away with pollen in them. Perhaps I may be too particular on this point, but I cannot make up my mind to introduce combs in this state into the centre of my bees' family circle, and trust to Providence that they would do no harm and that the bees would clean them up, more than I would think of introducing such unhealthy matter into my own family circle.

As regards swarming, my experience points to the fact that when the hive is supplied with new combs in brood-nest, if plenty of room is given for storing, swarms do not issue; but if, through pollen-clogged combs, the queen's laying powers are retarded, and room is not given, above or below, for room to deposit her eggs, swarms will be the order of the day.—BRIDGEFIELD, *Carmarthenshire, March* 15.

NOTES FROM WYCHWOOD FOREST.

[4297.] I should say, by all means let us have the excellent suggestion of your several correspondents carried out. Every one would no doubt like to see some of these tall sections with thin comb on the show-bench this year. We have had a full discussion on theory, now for the practical side of the business. I notice that "Buzzer" (4272, page 97) asks in his postscript if John Bull does not like a section filled to the edges all round, as well as thick comb. I reply, yes; and I think he gets it as often with the square section as he will with the tall one with ordinary management. This was pointed out by Mr. Woodley in his letter some weeks back.

I note that Mr. G. A. Barnes asks for opinions on "village lectures," and I may give mine by saying that some years ago I attended a lecture in the town hall here, delivered by a practical man, well illustrated with limelight pictures, and what struck me was the thin audience. Beyond our late vicar, who was interested in bees, not more than a dozen people attended. Some explanation may perhaps be found in the fact that in this age of meetings—religious, political, parish, and educational—to say nothing of the various kinds of recreative items of interest most places are blessed with, one finds it difficult to attend. Besides, we must bear in mind the small percentage of our villagers who are interested in bee-keeping.—JOHN KIBBLE, *Charlbury*.

A PEEP IN THE HIVES.

[4298.] During the past few weeks I have been round the district to the majority of my neighbours' bees, just to see how matters were going on, and knowing, as a local expert under the Worcestershire County Council, that many stocks in the autumn were weak and short of stores owing to the past unfortunate season, I found several stocks dead, and others just on the brink of starvation; and by a friendly hint, and a little help, I have no doubt saved the lives of thousands of bees and several stocks. I visited about twenty bee-keepers and about seventy stocks, disturbing or exposing the bees as little as possible, and only on warm days.—JAMES HIAM, *Astwood Bank, Worcestershire, March* 18.

ANCIENT BEE-BOOKS.

"A discourse or Historie of Bees, shewing their Nature and usage, and the great profit of them. Whereunto is added the cause and cure of blasted wheat," &c., &c.,—"all of which are very usefull for this later age." Written by Richard Remnant. London. Printed by Robert Young for Thomas Slater, dwelling in duck lane at the white Swan—1637.

[4299.] Three editions of the "Feminine Monarchie" had been issued before the appearance of the book now to be noticed, and we can discern the effects of Butler's teaching; in so much as, although neither he nor any other writer on bees is mentioned, the Queen Monarch theory is adopted without question. For the rest, Remnant's work is decidedly original, and for proof I may point out that here for the first time do we find the use of smoke for "stilling" the bees recommended when handling them: Neither Butler nor any writer of the period would seem to have hit upon this plan. Remnant also describes foulbrood and chilled brood, distinguishing between them: a matter of extreme interest, as showing that the curse of foul-brood has lain upon our land for many generations, and is not, as has been sometimes said, a modern ailment brought about by the introduction of foreign breeds.

I will now give extracts, noting, by the way, that we have finally bidden good-bye to black letter, and that the spelling is fast becoming commonplace.

Says the preface:—"Hearing and reading the Discourses and Writings of very many about Bees, and finding most of my countrymen not over skilfull in the way of keeping and meanes of preserving them . . . . I have

therefore (though rudely) penned this little Treatise." . . . . "To reveale the whole nature of Bees is very hard, and to little purpose. . . . . I purpose therefore to discover only so much as may serve for common use among us."

Remnant, recognising a Queen, considered the bees to be male and female. "Whether the Queenes blow the Queenes I am not very certain, but I take it to be so, because of the fairnesse and excellency of the creature, and the difference that is betweene her and the common Bees. But that there is any odds, excellency or use of the males one above another, I find not: neither is there any other use of the males but for generation and breeding, and helping to bring the brood to maturity; and they are great eaters, and labour not, but play and sport in and out, and take the aire when it is warm, for their pleasure, and so clean their bodies, and back again to eate and sleep: a dainty life, from which good Lord deliver me."

"The wax is gathered of the flowers or bloomes, with the fangs of the Bee; and so she puts it to her thigh, and rubs one against another to fasten it on, and then carries it home."

In the following passage we come across, for the first time, the idea that it is unlucky to pay for bees with money—a superstition that still survives in out-of-the-way places. It did not commend itself to Remnant:—"Therefore regard not old wives fables," says he, "but get them lawfully, though thou buy them with money, and then thou mayest expect a blessing. And for my part I have good store, I thank God, yet I have bought and sold to the value of a thousand pounds by the yere, for divers yeres together."

Now, if any one should find a difficulty in accepting this financial statement I must at once confess that I too have found it a hard saying, the more so because the general purchasing value of the pound sterling was far greater in the seventeenth century than is now the case. But Remnant's whole treatise is so moderate and straightforward that we have no right to disbelieve him, and I think that the following facts should especially be noted. First, that although the question is originally one of bees alone, the subsequent sale of their entire products, swarms, honey, wax, &c., would be considered in determining whether the purchase had been profitable. Secondly, that in Remnant's day cane sugar, the only sugar in commerce, was a costly luxury, and that for general purposes honey must have taken its place. The demand for the latter must therefore have been not only considerable, but constant, while in consequence of the as yet poorly-developed system of production and the probably complete absence of foreign competition, the supply can hardly ever have been equal to it. We may assume that the price was fully remunerative; in other words, it was a fine time for bee-keepers. Lastly, it is not quite clear on what system the £1,000 was reckoned, and apart from his short statement, we have no means of estimating on how large a scale our energetic bee-master did business.

In the matter of joining stocks and swarms, Remnant here shows himself quite at home:—

"I doe usually save a poore swarme at the end of summer: and looking over my Bees in winter, and againe in the spring, I found a goode stock that had but a few commons; and looking on them againe, I observed another good stock which had lost their Queen. Then tooke I my pore one, and stilled the Bees with Smoak, and knockt down the Bees and work and all upon a cloath, and so found the Queen, and put her into the middle of that stock which wanted the Queen; and I put the commons to the other which wanted commons; and so both were accepted, the Queen when a Queene was wanting, and the commons where commons were wanting; and so both my good stocks were preserved; and onely the little poore one (thus for necessity) minated, which at the best was not worth above one shilling sixe pence. . . . Now if you find a swarme or stock in summer that hath lost their Queen, you may preserve it by putting a little swarme to it: for in putting a Queen when a Queene wants, or common Bees where common Bees are wanting, in both these cases either Queene or commons will be received: but else they will fight or kill one another. But now, if you have no little swarme to save your swarme that hath lost their Queene, then put that where the Queene is lost home againe to the old stocke. Doe it thus. Knocke it down upon a broad board, and set a little board for them, whereon to runne up to the old stocke."

The value of the queen is much insisted on:—"The Queen is a very gentle and loving Bee, and will not sting." "Looke carefully after the Queene in swarming, but trouble not the swarme." "As I told you before, remember carefully to looke for a Queen."

"A very approved way of feeding Bees. First still the Bees with smoake (but not too early in the morning, lest they take harm by the cold aire:) then turn them up, and rake out a comb neare the Bees, wherein is no honey, and in stead thereof place the hony combe, and pin it with thin spleets, thrust through the Hive to fasten it: and set it so that the Bees may goe between the combs: and this they will take for their owne, and be content to stay."

"Experience will make you more perfect and readie in these things. Be not fearefull, but patient and gentle, and in case of necessitie over-rule your Bees with smoak, and so you may do about them whatsoever is fit."

And now for the foul brood:—"Some putrefaction sticks fast in the cells or holes, and is of a browne or deepish yellowish colour, which should have been brood, but came not to perfection. Other putrefaction looketh somewhat white, and was a brood but after-

ward took cold and so was chilled, and perished before it came to maturity, and so turned to putrefaction." He recommends that the diseased comb be cut out, the bees being "stilled" by smoke.

"Keepe your Bees sweet and cleane, and always note and observe what enemies they have :—

> Were it not for the Hornet and the Swallow
> Waxe would be as cheap as tallow.

Our author now digresses into a consideration of domestic economy, as shown in the following lines :—

> Ill thrives that haplesse family that showes,
> A cock that's silent, and an hen that crowes.
> I know not which lead more unnatural lives,
> Obeying husbands, or commanding wives.

A whole chapter is devoted to a comparison of bees and women, their merits and demerits. It leaves no doubt in my mind that Remnant was a married man. As he signs himself "Thine in the Lord, R. Remnant," he was perhaps a clergyman. No bee-keeper who has read this paper through will deny him a high place on the roll of our old masters. —South Devon Enthusiast.

REVIEWS OF FOREIGN BEE PAPERS

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Leipziger Bienenzeitung (Germany). — During the last three years a kind of tobacco plant has been grown in Nagy-Jecra, Hungary, which blooms very freely and is visited gladly by bees ; it has, however, been noticed that immense numbers of dead bees are found in the blossoms. Last year during the flowering season of this plant several populous hives sank into a state of absolute weakness. It has not been conclusively proved, but bee-keepers suppose, that the nectar of the tobacco plant is poisonous, or that their is an odour which is stupefying to the bees. We are curious to know how they will winter on this honey.

Dr. Dzierzon, dating from Lowkowitz, January 18th, writes giving an account of his ninetieth birthday (February 16) :— "His Majesty the King and Emperor has graciously added to the eight orders I have already received the Red Eagle, on the occasion of my ninetieth birthday."

Pine oil (a preparation from the resin of conifers) is said to be an excellent preventive of bee parasites. However, perfect cleanliness as to the floorboards is the best means, as bee-keepers on the North German heathlands—whose cleanliness is proverbial—know nothing of the bee louse.

An Undesirable Bee-sting.—On May 11 last a little schoolgirl accidentally swallowed a bee with her luncheon. The cold wind had blown the bee on to the bread she was eating where it remained half-benumbed. When school commenced the child was noticed to be crying, but it was thought an unimportant occurrence. On hearing, however, that a bee had stung her in the throat, I felt anxious and made her open her mouth as wide as possible, when the bee's sting was distinctly observable deeply set in the back of the tongue. I pressed the sting out with a pen-knife ; there was not much swelling, but I feared it might increase. I let her gargle with fresh water, and when, after a few minutes, there was no appearance of further mischief I felt greatly relieved. In the afternoon the trouble had nearly disappeared. The important and interesting questions suggested by the above are the following :—1. Why did not the throat swell ? 2. Was the child impervious to bee-stings ? 3. Or what is more likely, did the flow of saliva prove an antidote to the poison ?

It is well known that the nectaries of red clover, so rich in honey, are closed to the honey-bee, whose tongue measures about 4 millimetres, while the tubes (resp. corollas) of the red clover vary from 3·17 to 9·52 millimetres. Will the bee's tongue ever elongate sufficiently to reach the honey ? Many bee-keepers dream and hope it may, and the question arises, Could a variety of red clover be raised with a shorter corolla ? Why should not this succeed ? But no, the farmer would not go to the great expense of buying new clover seed for the sake of the bee-keeper unless it were much more profitable than the old, even supposing such a thing possible.

Le Rucher Belge (Belgium).—During the eclipse of the sun on May 28, 1900, it was noticed that on the approach of darkness the drones, which before had been buzzing actively outside, suddenly returned to the hives for refuge, and remained there. The worker-bees also hastened to the alighting-boards, but did not all go in. They behaved as is usual with a colony on the approach of a storm. A native of Frais Wallon gives the same report ; he adds, "The animals all seemed to be afraid, and took refuge in their stables, none remaining outside during the whole period of the eclipse. Immediately afterwards the bees flew as actively as if nothing had happened."

Leipziger Bienenzeitung (Germany) : *Belgian Honey Imports and Exports*—In the *Progres Apicole* is an interesting article on the importation of honey during a period of seven years, giving an account of which countries contribute. Doubtless the port of Antwerp is the great emporium for a great part of that from Germany, otherwise the import would not attain so high a figure, viz., ¾ lb. of honey per head. In 1893 the imports amounted to 1,023,507 kilogrammes (2 lb.) ; in 1894, 1,241,357 kilogrammes ; in 1895 it had risen to 1,421,997 kilogrammes ; in 1896 it sank again to 1,079,415 kilogrammes. From this time it has steadily increased, so that in 1897 it had again risen to 1,176,457 kilogrammes ; in 1898, 1,256,060 killogrammes ; and in 1899, 1,328,465 kilogrammes. Only the imports for 1899 are given according to their different countries of export : Germany, 3,443 kilogrammes ;

England, 68 809 kilogrammes; Cuba and Porto Rica, 39,948 kilogrammes; United States, 546,510 kilogrammes; France, 361,936 kilogrammes; from Hamburg (probably mainly from Russia), 184.564 kilogrammes; Italy, 52,214 kilogrammes; Mexico, 15,293 kilogrammes; from the Netherlands, 5,378 kilograms; Turkey, 29,046 kilogrammes. The first time Mexico or Turkey have appeared as export countries. Other countries, 21,324 kilogrammes.

Queries and Replies.

[2604.] *A Beginner's Mistake.*—I earnestly solicit your help in the following case:—Two days ago our gardener noticed an unusual number of dead bees in front of one of my three hives. A day later there were several hundreds of dead and dying bees on the alighting-board and on the ground in front of the hive. Unfortunately, I was only told of this late yesterday, when I at once poured some warm syrup over the frames. To-day (Monday) I examined the hive and found the floor covered about an inch deep with dead bees, and not more than a hundred live ones. But the latter were active on the combs, and I strongly suspect them of being robbers from one of the other hives. I found the combs absolutely devoid of honey, though many cells were occupied by dead bees, head-foremost in as far as they could go. The queen was alive, however, and she seemed quite active, and I have given the few remaining bees (which, as already said, I fancy were strangers) a bottle of syrup, after having cleared out about two pints of dead bees from the hive floor. I have bitterly reproached myself for not having seen to their wants sooner; but, being quite a beginner, have profited by this experience, and I shall see that a similar catastrophe does not occur to the other colonies. For the present, however, will you please advise me what to do? 1. Since the queen is present, is there a chance of saving the stock 2. If not, what ought I to do with her? 3. Is there any use in giving the bees syrup as before to build them up again? I had almost forgotten to say that in December last, during a heavy gale, the hive in question was blown clean over, but the gardener, after examining, said no harm was done, the frames not having been loosened. 4. Would the excitement caused by this account for the rapid consumption of the supplies?—"DER LEBENUNG," *Dublin, March* 11.

REPLY.—1 and 2. It would appear as if the bees were in the first instance dying from want of food, and when syrup was poured over the frames it attracted robber bees from other hives, and so put the finish to a bad case of famine. If there are no more than "a hundred" bees left they are perfectly useless, unless it be for keeping the queen alive till she can be utilised for a queenless stock should one be found in your apiary. 3. Just give sufficient to keep the bees alive if queen is wanted. 4. If any combs were broken down and contents ran on to the floor-board, it may have started robber bees to carry off the food.

[2605.] *Bees Deserting Hive in March.*—I enclose some comb, which I hope will reach you safely. I am only a beginner with bees, and left my four hives all safe, as I thought, in the autumn. On looking into them yesterday, however, I found three well filled with bees, but in the fourth the bees had disappeared, except perhaps thirty on the quilt at the top (dead), and one or two clustered at the bottom of a frame. There were only two bees alive in the hive. I should be very pleased if you could tell me 1. What has become of them. Three weeks ago they were flying about outside the hive. 2. As you will see by the comb sent, there is some honey, and although that which I sent you is crystallised, a lot in the other frames is quite liquid. What is the white substance in the cells; also the brown liquid? If it is foul brood, will you kindly tell me what you advise me to do? This hive takes frames 2 in. deeper than the standard; should I have it cut off to the proper size, or have some frames made? and can I use these combs (same as sample) again, as there is some honey in?—"MADGE," *Sheffield.*

REPLY.—1. We should require some account of the hive's history to enable us to form a correct opinion. If the hive referred to swarmed last year, it may have become queenless later on, in which case the bees have probably joined one of the other colonies. 2. The "white substance in cells" is mildewed pollen, while the "brown liquid" is not "liquid" at all, but simply pollen that has been covered over with liquid honey by the bees. To alter depth frames would need a new hive.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

O. S. D. W. (Birmingham).—*Preventing Robbing.*—1. There are several plans of stopping robbing besides the use of carbolic acid, but the application of each depends largely upon the circumstances of the case. If taken at the outset an attack may often be warded off by reducing the entrance to half an inch or less in width, and smearing the alighting-board on each side of doorway with carbolic acid; or it is sometimes stopped by closing the entrance entirely until sunset and turning the hive round, after taking care to allow for ventilation. Another plan is to rear a piece of glass, about 8 in. by 5 in., against the hive in front of entrance, so that bees may have passage-

way at the ends, but not directly in front of the flight-hole. This disconcerts the robbers and sometimes causes them to give up an attack. 2. Giving sealed honey in comb is the best way of feeding a weak stock when the robbing tendency is about. It causes less upset and is less likely to attract marauders than syrup-feeding. 3. If carbolic acid is used in full strength, viz., 1 part acid to 2 parts water, the solution is put on with a brush, as it would injure the hands to scrub the hive with it.

T. BROWNLEE (Galashiels).—*Suspected Combs.*—The stock is affected with foul brood, though the disease appears to be only in the incipient stage if comb sent is a fair sample of the whole.

H. SMITH (Ludlow).—*Bees Dying in Winter.*—Of the samples of comb "with bees attached," as numbered, No. 1 points to starvation as cause of death. Bees are usually found head foremost in cells when dead from want of food. No. 2 is drone-comb only; no sign of brood or anything to enable us to explain why the bees died. No 3 has no trace of either brood or food in cells, and as comb is healthy-looking and not old, we think this lot also has died from want of food. The bees are the ordinary variety, and as there is no trace of disease the combs may be safely melted down for wax.

EAST DORSET (Wimborne). — *Lists of Bee-keepers.*—After mature consideration we cannot see any adequate advantage likely to follow the "filing" of the proposed "lists" at our office, even if readers were willing to supply us with them. In any county possessing a bee-keepers' association the names and addresses of members may be found in the annual report, a copy of which is obtainable from the hon. secretary.

R. H. (Yorks).—*Dealing with Foul Brood.*—1. You have acted wisely in destroying the five affected stocks as stated. With regard to the other fifteen hives, now healthy, there is no need to transfer the bees and combs into clean hives if there is no disease in the old ones. We should leave them where they are, and if signs of foul brood appear, as they soon will if present, we may then advise you as to treatment. 2. Honey from the affected hives is quite fit for table use, but not for bee-food.

X. Y. Z. (Kinloch, N.B.).—*Suspected Combs.*—The large piece of comb sent contained but a single sealed cell, the rest containing only unsealed food and pollen. The contents of cell mentioned are slightly suspicious, and it will need to watch the hatching brood carefully during April and May. In the meantime use preventives both in the hive and in any food given.

H. C. (Sussex).—You may congratulate yourself on the fact of the hive from which comb was taken not being your own. It is as bad a case of foul brood as can well be imagined. Unless precautions are taken by burning the "old" hive and contents you will have more than your share of the disease, which you say has been hitherto unknown in the neighbourhood.

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Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

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POTATOES FOR SEED.—"The Schoolmaster," first-class white round potato, peck 1s. 3d.; half-bushel, 2s. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

TWO beautiful 1900 QUEENS, 4s. 9d. each; guaranteed. Pure AYLESBURY DUCK EGGS, 2s.; sitting. Best sort out. SPEARMAN, Colesbourne, Cheltenham. E 52

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TEN joiner-made SHALLOW-FRAME BOXES, Standard size, 1s. each. Also worked out combs quite new 3s. per dozen packed. HODGKINSON, 76, Valley-road, Spital, Chesterfield. E 56

15 STRONG STOCKS Non-Swarming BEES in brood box, 25s.; or with the "Wavendon Swarm-Preventing Hive," 42s. 6d. each; securely packed. Twenty years' "Bazaar" reference. ALBERT HARRIS, Wavendon, Woburn, Sands. E 50

TO LET. Commodious detached Villa Residence, Rent, £26. South Coast seaside town. Splendid location for Apiary. Well stocked fruit garden. Incoming only £50, for lease, glass-houses, frames, &c. RUSSELL OAKLEY, Appraiser, Christchurch, Hants. E 57

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, March 21, Mr. E. D. Till occupying the chair. There were also present Miss Gayton, Miss Egginton, Hon. and Rev. Henry Bligh, Major Fair, Messrs. R. T. Andrews, W. Broughton Carr, J. M. Hooker, W. P. Meadows, J. H. New, W. F. Reid, W. J. Sheppard, F. B. White, and the Secretary. Letters apologising for enforced absence were read from Mr. W. H. Harris (Vice-Chairman), Messrs. G. Hayes, A. G. Pugh, P. Scattergood, E. Walker, T. I. Weston, and C. N. White.

The minutes of the previous meeting were read and confirmed.

Lieut.-Colonel H. J. O. Walker was duly elected to life-membership of the Association.

The Finance Committee reported that the receipts and expenditure to March 20 had been duly examined, and that a balance of £41 19s. 6d. stood to the credit of the Society at the bank. Several payments were authorised, and the report approved.

It was resolved to offer one silver and one bronze medal, and one certificate of merit, to be competed for at each of the following shows, viz. :—

The Royal Lancashire Agricultural Society, at St. Helens, July 25, 26 and 27.

Confectioners' Exhibition, Royal Agricultural Hall, September 7 to 14.

Grocers' Exhibition, Royal Agricultural Hall, September 21 to 28.

The Secretary was authorised to appeal for subscriptions to a special prize fund to cover the cost of the above and of the prizes to be offered at the Dairy Show in October, in order to relieve the strain upon the Society's resources which these annual payments necessitate. A number of donations were received in the room, and the total amount available will be reported at the next meeting, when the Dairy Show prize schedule must be framed.

Gifts of hives and other appliances to the Association for use at the apiary at Swanley were reported from Messrs. J. H. Howard, W. P. Meadows, Geo. Rose, F. W. L. Sladen, E. H. Taylor, T. I. Weston, and one from "Colne Station," bearing no name on it by which the sender may be identified. The Council desire to thank the various donors for their generosity, by which the educational work of the Association will be much facilitated and helped.

A suggestion emanating from the Leicestershire B.K.A., that the B.B.K.A.'s medals should be obtainable in a form suitable for personal adornment, if desired, was well received by the Council, who will take steps to see in what way the suggestion can be reduced to practice.

An application for the services of an examiner of candidates for Third-Class Expert Certificates was received from Berkshire and acceded to on the usual terms.

The Secretary reported upon an interview with the President in relation to securing the representation of the industry at the Spring Show of the North-East Agricultural Association at Belfast. The arrangements whereby it is proposed the work shall be undertaken by the Irish Bee-Keepers' Association were approved.

ANNUAL GENERAL MEETING.

The annual general meeting of members was held in the boardroom of the Royal Society for the Prevention of Cruelty to Animals, 105, Jermyn-street, on Thursday, March 21, under the presidency of Mr. E. D. Till. Others present included Miss Gayton, Miss Egginton, Mrs. Walters, Hon. and Rev. Henry Bligh, Revs. W. E. Burkitt and W. H. A. Walters, Major Fair, Messrs. R. T. Andrews, W. Broughton Carr, R. T. Duncan, T. S. Elliott, J. M. Hooker, W. P. Meadows, J. H. New, W. F. Reid, W. J. Sheppard, G. H. Skevington, F. W. L. Sladen, T. I. Weston, F. B. White, J. Willard, and the Secretary.

Prior to the commencement of the ordinary business the Hon. and Rev. Henry Bligh moved: "That on the first occasion of meeting since the death of our beloved Queen, the members of the British Bee-Keepers' Association beg to be allowed to offer their respectful and sincere condolence to their gracious Majesties the King and Queen and other members of the Royal Family on the sad loss which they have sustained, and with grateful remembrance of the kind interest which her gracious Majesty Queen Victoria took in the Association and its work of establishing the improved and humane system of bee-keeping, would venture to express the hope that his Majesty the King will continue to take the same interest as he has already shown in the B.B.K.A., and extend to it his Royal patronage."

This resolution was carried amid silence, and ordered to be forwarded to the Home Secretary.

The Chairman read a letter from the Baroness Burdett-Coutts (President), regretting that under medical advice she was reluctantly obliged to refrain from attending the annual meeting. Her ladyship further wrote:—"Please assure the committee and the general meeting that I have followed the transactions of our Society with never ceasing interest, and notice with great concern that our useful institution has shared in the depression of all industries, and has suffered a diminution of income. Under the circumstances, I venture to suggest that the most prudent course would be to curtail our expenses—to do all that can be well done, and not seek to further extend operations or increase our expenditure. Anything to which

a slight assistance would be valuable, and further the aims of the Society, should be carefully fostered. The Society has done good work; let us cherish what we have done, keep up our means of information, and be prepared to recommence a new campaign with confidence and vigour when the proper time comes."

The minutes of the previous annual meeting were read and confirmed.

Mr. Till, in moving the adoption of the report and balance-sheet for the year 1900, directed attention to the fact that subscriptions had dropped considerably, but in view of the heavy calls upon subscribers to other funds during the past year, there was reason for satisfaction that the Society had been able to stand so well as it had done. The motion was seconded by Mr. Carr, and carried unanimously.

On the motion of Mr. Sladen, seconded by Mr. Willard, a vote of thanks was passed to the retiring Council and officers.

The Hon. and Rev. Henry Bligh moved a vote of thanks to the Council of the Royal Society for the Prevention of Cruelty to Animals for the gratuitous use of their board-room for committee and other meetings. Mr. Hooker seconded the motion, which was carried with acclamation.

The President, Vice-Presidents, hon. members, corresponding members, treasurer, auditor, and analyst were re-elected, in accord with the rules, upon the motion of Mr. Till, seconded by Mr. F. B. White.

The election of Council for the year 1901 resulted in the following selection:—Hon. and Rev. Henry Bligh, Miss Gayton, Major Fair, Lieut.-Colonel H. J. O. Walker, Messrs. R. T. Andrews, R. C. Blundell, W. Broughton Carr, Dr. Elliott, W. H. Harris, J. M. Hooker, H. Jonas, J. H. New, W. F. Reid, P. Scattergood, W. J. Sheppard, E. D. Till, E. Walker, T. I. Weston, C. N. White, and F. B. White.

A meeting of the new Council was held immediately after the general meeting, when Mr. T. W. Cowan was unanimously re-elected Chairman of the Council for the forthcoming year, and Mr. F. B. White to the vice-chair in succession to Mr. W. H. Harris, who, to the general regret of his colleagues, finds himself, in consequence of ill-health, compelled to relinquish office.

It was resolved to hold Council meetings on the third Thursday in each month, August excepted.

The next meeting will therefore be on Thursday, April 18.

CONVERSAZIONE.

After a short interval for refreshments, the members reassembled in conversazione at 6 p.m. Mr. F. B. White was appointed chairman, and opened the proceedings by inviting Mr. Meadows to show and explain some appliances or objects of interest to bee-keepers which he had brought with him for exhibition.

Mr. Meadows produced an appliance known as the "Rymer Adapting Board." He did not claim that it was his own invention. It was an idea of Mr. Rymer's, one of the most successful bee-keepers in England, who claimed that it had assisted him very much in obtaining large harvests of honey from his bees. Mr. Meadows then went on to explain the use of the adapting-board, regarding which full particulars from Mr. Rymer's own pen appeared in B.J. of November 1 last year (page 430). An illustration of the board also appears on page 445 of our issue of November 15 last. Another appliance of Mr. Rymer's which deserved special mention was his Heather honey-press. Mr. Rymer, when at the "Royal" show, held at York, had stated with the help of his wife and son (a lad of fourteen), he had pressed out 1 cwt. of heather honey, bottled, and made it ready for market in the remarkably short time of one hour.

A considerable amount of discussion—in which a dozen or more gentlemen took part—followed with regard to the merits and demerits of the appliances referred to, and Mr. Rymer's system of working, at the conclusion of which Mr. Carr said he hoped that Mr. Meadows would not unintentionally mislead either himself or others by claiming that the adapting board had of itself produced the good results undoubtedly achieved by Mr. Rymer. The "board" was only one item in his system of working, full particulars of which could be read in the B.J. by those who cared to try the appliance.

In summing up the discussion, the Chairman said they were indebted to Mr. Rymer for sending the board for inspection, and to Mr. Meadows for his explanations; and he was sure they would all agree that besides being a good station-master Mr. Rymer was a very good bee-master. He echoed the suggestion of Mr. Meadows to let the board be thoroughly tested. He hoped all present would try it and report thereon at a future meeting. In the meantime their thanks were due to Mr. Rymer.

Mr. James Lee brought before the notice of the meeting a method of preparing a frame-hive stocked with combs and bees for travelling by rail or road. He had been induced to bring the hive body-box as shown in consequence of a letter which recently appeared in the BRITISH BEE JOURNAL on the best way to secure frames with full combs and bees for travelling. He stated that he had made use of the method many times, and always with success. In answer to questions it was explained that the only requisites were two strips of $\frac{3}{4}$ in. by $\frac{1}{2}$ in. wood, about $\frac{1}{8}$ in. shorter than the inside of the hive (for fixing across the frames), and six screws, 2 in. long. In all properly constructed hives there was a stout fillet of wood, which might be called the "filling-in piece," fixed between the inner and outer walls, about $\frac{3}{4}$ in. below the top edge, on

the opposite sides of which the ends of the top bars rest. A screw was driven through each end of the strip between the two outer frames, and another in the centre, also between two frames, and entered the "filling-in piece" about ½ in. deep, moderately tight only. By their action the frames were gripped firmly to the edge of the inner walls.

The stock-box was handed round for examination, and its merits freely discussed conversationally. By shaking it there was no perceptible movement of the frames, but when jarrod there was a slight springy action, which was no doubt an advantage.

(Conclusion of Report in our next.)

WARWICKSHIRE B.K.A.

ANNUAL MEETING.

Sir James Sawyer, presiding over the annual meeting of the Warwickshire Bee-keepers' Association at the Grand Hotel, on the 22nd inst., spoke in terms of the highest commendation of the beneficial properties of honey as an article of food, and also as a natural medicine. Honey, he said, was an important article of commerce; it was certainly a great and important article of food, and an important remedial and medicinal agent. He ventured to think that the £70,000 worth of honey which was imported into England might well be supplied by the cottagers of England, who, if they could be induced to apply themselves to its production, would find it a more profitable industry than, for instance, poultry-keeping. He firmly believed that a cottager taking up bee-culture and production of honey might, with average intelligence, be expected to pay his rent out of the proceeds. Speaking of the virtues of honey Sir James said it was known to him as a nutritious food, as an emollient, soothing inflammation, as a demulcent, a sweetening and softening agent, and as an evacuent, which on its entry into the body had power to promote the evacuation of various morbid materials which, if retained, might give rise to ill-health, suffering and disease. Surely, therefore, it was an article to which more than a passing regard should be given, and surely such a food and cure for diseases should be used in preference to the advertised nostrums and tinned quackery of the present day. Sir James then moved the adoption of the report, which was agreed to. Lord Leigh was re-elected president, Mr. A. H. Foster was re-elected treasurer, Mr. James Noble Bower continues the secretarial duties, Mr. J. R. Inglethorp was elected assistant-secretary, and Mr. Lawrence Hawkes hon. auditor. Sir James Sawyer having been thanked for presiding, Mr. George Franklin gave a lantern lecture on "Prevention of Swarming and Appliances Recently Brought into Use for that Purpose."—*(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4300.] The weather since my last "Notes" has been cold and boisterous, with stormy days, N.E. winds, and rarely a bee moving, even at mid-day. On the 24th we had several hours of sunshine, and there was a merry time in the apiary, the bees getting the first food and much-needed cleansing-flight for twelve days past. With breeding going on at date of writing, one cannot venture a forecast of the season, but present appearances point to a late spring. The willows in this district will, I fear, not be in bloom by "Palm-Sunday." To-day (Lady-day) it has been snowing, thus giving a wintry aspect to the hills in the distance.

Size of Sections.—This question still occupies the central position of interest to bee-keepers. Mr. Lamb whets one's appetite for the good time coming when we are to get racks of sections filled in five days. No, Mr. Lamb, that is too good a result for this mundane sphere! Perhaps some of our friends who work mainly for extracted honey will give their experience of the time occupied in getting boxes of shallow-combs filled and sealed over in a good season? This would help to solve the question of the advantage or otherwise of the taller section beyond extra expense.

A South Coast bee-keeper writes me on the way some put up sections for market—soiled with dirty hands, bedaubed with propolis, &c.; this, too, with sections fairly well filled and otherwise marketable if offered in a presentable form. In reply to "G. R. K." (4286, page 108), the racks I use are of the most simple form. I have no hanging-frames for sections. Maybe the bee-keeper with unwashed hands would find hanging-frames a protection against propolis and travel-stain of the bees, but not proof against finger-marks on wood after removal.

My section-racks are similar to "Abbott's" Economic," with wood slats on which the sections rest. Time was when each rack was fitted with a glass at the end by which to get a peep to see how work was progressing during the honey harvest. I have also a few of Neighbour's racks with tin girder supports, but I do not like them so well as the wood slats. I rather favoured the tin rests at first, but after several years careful practical tests, I confess there is no advantage, and I now prefer the wood slats.

There is, however, one great disadvantage in these racks with girder supports, as in use the

sections are apt to get out of square. This trouble can be remedied by inserting a strip of wood between the rows of sections, but with slotted dividers this is an awkward job to fix up for several reasons. My racks are so made that the sections when fitted are square.

"*Wells*" *Hives* v. *Single Hives.* — The "Wells" hive, I think, ought to show double the return of a single hive, or equal two single hives, seeing that it is two colonies in a twin hive storing in one super. How any one can contest this passes comprehension.

Hazel Pollen.—Mr. Loveday mentions (on page 104) the abundance of hazel pollen. The flowers of plant are not visited by bees; the blossoms are vertical and the pollen is shaken by the wind and falls on the anthers. Nature, by the superabundant supply of pollen grains, meets the stray chances of the flowers becoming fertile and producing fruit. Can any one tell us why some blossoms produce one nut only, while another will produce a bunch of ten?—W. WOODLEY, *Beedon, Newbury.*

COMMENTS ON CURRENT TOPICS.

[4301.] *Concise Contributions.*—How would the shades of "B. Short" view the length of several articles lately appearing in our pages? If he still survives, he might repeat the old advice to "boil it down." Or perhaps our editors might issue an imperial ukase limiting all articles to two columns!

Shading Hives.—Bee-keepers annually lose a great number of bees by "death from misadventure," because they persistently come out on bright and sunny days when snow is on the ground, and fail to return because they find a snowy grave. Shade-boards should be in front of every hive to hinder this, and these should be of sufficient size to practically overshade the whole hive front. Even then, where, as in high-lying districts, snow lies long and deep, confining the bees to the hives for a considerable period, they will insist on issuing at unfavourable times in spite of all hindrances. If the snow is crusted by frost they get up all right, after sometimes having a quiet sip, and enjoy a short flight and return to the hive; but if the snow is soft the heat of their bodies melts it very quickly, and they sink the deeper the more they struggle, till the snow shows quite a large number of holes, or pits, each forming the grave of a bee. This winter has cost me a considerable loss in this way, in spite of severe shading.

Glasgow Exhibition.—I have been wondering whether any united effort is likely to be made by British bee-keepers to send an exhibit of honey worthy of the occasion to this important World's Fair. I have not, however, yet heard of anything being done.

The Roll-call.—All alive, O! can be recorded as yet of every colony, but May may tell another tale than March. This month came in like the proverbial lion, but from the 9th onward we have had a good deal of lamb-like weather, and bees have been having a lively time. Every available flower has had to pay tribute, and artificial pollen has been carried in extensively.

Size of Sections. — Although practically closed the discussion continues to simmer on In viewing the results I am forcibly reminded of the Scotch ballad regarding the indecisive termination of the Battle of Sheriffmuir:

"Some say that they wan, and some say that we wan,
And some say that nane wan at a' man."

Messrs. Woodley, Taylor, Howard, McNally, Brown, Loveday, &c., all men of renown in our calling, vote for the *We*. Rev. M. Lamb, brushing aside these "novices," sticks to his own opinion still. He has shown himself so doughty a champion in what I view as a weak cause, that I feel confident he would prove an admirable advocate in a strong one. Even those who believe that the sins of the 4¼ in. by 2 in. section have "not been demonstrated" will feel pleased that he is to secure a fair practical trial for his narrow sections, followed by the still further crucial process of submitting them to the "test tube" of the show bench. Let me express one caution! In America their three "standard" sections, by Mr. Sladen's own admission (see 4249, page 63), are all light weight—(1) 15½ oz., (2) 13½ oz., (3) 14 oz. to 15 oz. Now, the initiator of this discussion has again and again ruled out of court all weighing less than 1-lb., and yet these sizes are being advertised for trial and experiment. I would strongly deprecate the introduction of any light-weight sizes. Mr. Sladen wastes the greater part of page 94 "beating the air," as his friend graphically expresses it, in a vain endeavour to prove that I am "against progress in any shape or form," whereas at the very outset of the controversy I stated that I had an "open mind for all reform." I might have passed this finical criticism unnoticed but that he winds up with the inexplicable statement that he owes me "no grudge." As I never named his name, or even alluded to him or his arguments, either directly or indirectly,

(*Continued on page* 126.)

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

The pretty bee-garden of Mr. Shenton, shown on next page, is a real pleasure to gaze upon, forming as it does an agreeable change from the "up-to-date" apiary where the main object is profit, and the bee-keeper is all "hustle" to save time and labour. The bell-glass super filled with combs that brought 2s. 6d. per lb. is reminiscent of earlier days to all old hands, and along with the pretty floral surroundings seen, go to prove that there is something in a home of the honey-bee whose

owner "keeps bees more for pleasure than profit." Mr. Shenton writes of himself as follows :—

"In forwarding you the enclosed photo of my little apiary, taken some time ago, I may say that when sixteen years old (1840) I was induced to start keeping bees by an old gardener who instructed me in the mystery of their management, which instructions, as I look back upon them, seem to be of a very crude sort indeed—little more than that of hiving swarms in summer, and, when the harvest was over, how to select the heavy and light ones to be consigned to the brimstone pit on the third day of August (why that particular date I never could quite understand).

MR. J. S. SHENTON'S APIARY, HUSBANDS BOSWORTH, RUGBY.

But as I kept the bees more for pleasure than profit, I did not adhere strictly to custom, and in consequence my stock soon increased to fifteen or twenty stocks. Having a warm corner in our garden sheltered from north and east winds, I erected a shed to hold eight stocks in two tiers. This shed was open in front and one end, passage-way at the back of hives. Thus I was enabled to spend many a dinner hour and summer evening in watching the little workers either drawing out comb or storing their sweets in the bell-glasses. Three of the hives were made of 1½-in. wood, 1 ft. square and 1 ft. deep, with glass let in on each side; in the crown-board on top were three 2-in. circular holes; a thin board, same size as the top, with apertures to correspond, turned on a central screw so that when a bell-glass was full I had only to turn it half-round and the bees were cut off from the hive below. Then a bit of wood slipped under the edge of glass enabled the bees to escape, and they were soon clear of bees. The honey in these bell-glasses would fetch in those days 2s. 6d. per lb. In the photo is seen a remnant of those 'old times'—the ancient skep, old carpet, overturned panchon, slate for alighting-board (is that a Hibernianism?)—among its more aristocratic neighbours the bar-frame hives. The latter, by the by, my dear wife calls my 'labourer's cottages,' they are all home-made from old soap and matchboxes, and with the help of 'hints' in B.B.J., which I have taken for many years. Ours is not a good honey district, being high tableland, all uphill work for the laden bees into the village. I am content to have for my share what honey the bees store on the upper deck, and I leave them the rest for their own table, and I find that division of the fruits of labour pays me well enough with the pleasure thrown in. My house is about 15 yards in front of the hives and the little grandchildren play about in the orchard at back of hives without fear of being stung. Nature in bees as in everything else well rewards its votaries, and with the shepherd on the hill-side of Judea I can say 'How manifold are thy works, in wisdom hast thou made them all.'"

(*Correspondence, continued from page* 124.)
the use of the word is manifestly absurd. (The inelegant expression is not mine, but borrowed from his henchman.) Any idea of a "grudge" sounds strange coming from one whom I have ever regarded as the pink of courtesy, judging by all he has ever written in the pages of the JOURNAL in the past. "Sir, when we quarrel in print, let it be by the book of good manners," as Touchstone says. Let it be in the "first degree, viz., the retort courteous." Never let us bee-*friends* (I like the expression) rush to the "fifth degree, the countercheck quarrelsome." It will give me pleasure to respond at some future time to the Rev. Mr. Lamb's request to say something on the proper number of racks to use at one time; but this must "bide," or our Editors will be pointing a warning finger at my opening par, and have me crying, "*Peccavi!*"—D. M. M., *Banff.*

SOME ESSEX NOTES.

[4302.] *Size of Sections.*—One thing that I omitted to mention in my last contribution on this subject is that before a standard size of shallow-frame was adopted, I had in use a number of shallow-frames 4¼ in. deep; these have since remained doing duty side by side with the deeper frame, and I have been forced by this experience to the conclusion that a taller 1-lb. section will be disadvantageous, because the increased height will quite overwhelm the doubtful advantages claimed for it. In poor seasons my 4¼-in. deep frames will be well filled and sealed, while the 5½-in. shallow-frame, now generally adopted, being deeper, is much less well filled and sealed over. Last season, for instance, I had an equal number of supers with frames of these two sizes in use under exactly the same conditions, and while 80 per cent. of the smaller frames were well-filled, many of them as near perfect as it is possible for bees to do their work, only 25 per cent. of the larger ones were at all were filled, and in only one super was the work of the excellent finish that I like to see on an exhibition table. I remember another poor season, when at an exhibition in a good district, in the class for three shallow frames, only one exhibit was staged, and that was my 4¼ in. frames. As showing the effect that increasing the weight of supers may be expected to have, I may mention that during last season I met two bee-keepers who use supers of standard frames, and so far as surplus-honey is reckoned in our successes, their bee-keeping was a failure. Some other bee-keepers whom I met last season experienced the greatest possible difficulty in getting shallow-frames finished. I know that there are seasons when bees will work in anything as a super, be it tall, round, or even the empty space outside the hive. I think that one of the things that want considering most is how to get the best possible results in poor seasons, and, for reasons given above, I think a taller section will do much to defeat this object.

Undesirable Swarming.—Having considered Mr. Will Hampton's letter on this subject (4292, page 113), I am inclined to add to the heading used by him, and call it "undesirable methods of preventing swarming." While there is doubtless a feeling of satisfaction in the breast of the bee-keeper who is able to avoid the many and varied exciting experiences of his brethren in the pursuit, such as recovering a swarm from a tall elm in a neighbour's park, there are other things that should be considered before our personal convenience—things that must have prior consideration if the best interests of our bees are to enter into our calculations at all. We may secure for ourselves a certain amount of certainty in our bee-keeping by the adoption of methods that in any case are undesirable, and in preventing swarming by Mr. Hampton's plan I think we shall do what is both undesirable and unnatural. It is nature's aim, if I may put it that way, to secure the survival of the fittest; by Mr. Hampton's plan the drones that are most unfit for their purpose will survive. There are many ways in which it is given to us to be able to assist nature, but if, by taking into our own hands the control of nature, we secure the survival of the poorest and most unfit of a species I think we should stop and allow our personal convenience no place in the consideration of the matter. To every creature, however small, is given the power to aid in the reproduction of its species, and I think it is allowed that bees that swarm to a moderate extent are stimulated to greater efforts by it. If we to all intents and purposes deprive our bees of the ability to swarm, or, to put it another way, if we breed out of our bees the desire to increase and multiply, there is evidence that with a disinclination to increase will come reduced energy and industry. I have not forgotten that your correspondent may be able to rely upon the more sturdy and fit drones from the hives of neighbours, but we should keep the command of our resources in our own hands. I recommend allowing every colony of bees to fill one-third of a standard frame with drone-comb, over and above odd corners. —WM. LOVEDAY, *Hatfield Heath, Essex.*

SIZE OF SECTIONS.

[4303.] I have followed the discussion on the above subject with very great interest, and think that much credit is due to Mr. Lamb for the able manner in which he has given us his opinions. Whatever Mr. Lamb's opinions may have been some time back with regard to thick combs, I can—from personal conversation with him when on the moors last year—believe him to be thoroughly in earnest now respecting the narrow section. His ideas, like

those of other people under the influence of wider knowledge, have undergone a change. The interesting comments from our most experienced bee-keepers have been honourably dealt with by Mr. Lamb, and it now remains for the advocates of the narrow section to give it a fair trial in the coming season, and let us compare results.

There is one thing in the interesting discussion that I cannot allow to pass without my personal approval, viz., the hanging of sections in a frame. I should not advocate a shallow frame to be used for both sections and extracted honey, there is too much trouble in uncapping sealed honey in a wide frame; I prefer a narrow frame in which the comb projects beyond the frame, so that the whole of the capping is removed easily with one stroke of the knife.

Here are a few facts respecting the average of five apiaries located for the heather close to my station, so that I had an opportunity of seeing the hives every day. The apiaries are owned by five different gentlemen, and the "take" was: No. 1, forty-eight sections per hive; No. 2, four sections; No. 3, nil; No. 4, six sections; No. 5, thirty sections per hive. Now those five apiaries were working over the same ground, and it seems most extraordinary that the average per hive should vary so much. All were worked with the 4¼ in. square section, Nos. 2, 3, and 4 with ordinary section racks, and Nos. 1 and 5 with hanging section-racks. I do not mean to say that the success of Nos. 1 and 5 are due to hanging-frames only, as a great deal depends in managing the stocks so that they are in the proper condition at the right time. Yet it seems very strange that the hives with hanging-frames should be so very far ahead of those not so worked, and certainly looks as though there was something in the hanging-frame for sections. Anyway, the narrow sections hung in frames or otherwise are worthy of a trial, and if they succeed, as Mr. Lamb predicts, I am certain I shall not be far behind.—W. Rymer, *Levisham, Pickering, Yorks, March* 21.

[We have in type another long letter from the Rev. Mr. Lamb, which will appear next week, when we propose closing the discussion on *size of sections*. The subject has proved of very great interest to readers and has been thoroughly and intelligently thrashed out by competent practical bee-keepers, and we may now safely leave the matter to be put to a practical test in the coming season, when we hope results will be reported.—Eds.]

HAZEL POLLEN.

[4304.] Referring to the letter of Mr. J. Hiam (4293, page 114) I have seen bees gathering pollen from hazel catkins on several occasions in early spring. But as the hazel blooms very early the bees as a rule miss this chance of early pollen, and I think it would be advantageous if our bees had a freer access to the hazel catkins. The cold spring winds so frequent with us deprive the bees of this source of early harvest. I am surprised at our friend Mr. J. H. saying that as a bee-keeper of fifty years' standing he has never seen bees at work on hazel. It would be interesting to have some other old bee friends giving their opinions on the above question. To-day (March 23) being a fine day, I made an inspection of the hives under my supervision (about forty-five stocks) and was pleased to find nearly all in splendid condition. I found two stocks dead, though both had sealed stores left, nor was there any trace of disease in the combs. The roof of one hive had let in the rain and the quilts were wet and mouldy, thus causing death. The rest had, except two, plenty of sealed stores. These were duly fed with warm syrup. Weather is very cold here, but there is a grand prospect this spring for the bees in the promise of a splendid crop of fruit blossom. The willows are very late but promising. My apiary is in the midst of about two acres of willows, and I enjoy a walk through the bushes, and the sight of busy bees on them.—E. J. Thompson, *Gowdall, Mid-Yorks, 23rd March.*

LECTURES ON BEES AND BEE-KEEPING.

[4305.] Absence from home and irregularity of delivering my Journal have prevented my seeing the articles *re* above subject until very recently. I must confess I was rather surprised at the somewhat gloomy and pessimistic aspect in which Mr. G. Franklin (4258) regarded the question. Surely it cannot be quite such a difficult matter to get the dwellers in country districts to attend lectures on bees and bee-keeping.

My own experience is not in accord with that of Mr. Franklin. I have now been lecturing in the county of Worcester for some twelve years, and during that time I have never had to face an audience of "*five*," but taking an average during all these years, my hearers have been thirty-five at each lecture. In some instances as many as 150 have attended, and my smallest audience was in a sparsely-populated village on a wild wintry night, the snow lying deeply on the ground, when fourteen persons attended, including the rector of the parish. I have found that dwellers in country districts have been quite as ready to attend lectures and quite as appreciative of them as residents in the towns.

So far from being unwilling to attend, I have frequently had expressions of regret that the course has ended, and requests for an extension.

If the supposed difficulty of getting an audience does exist in any district, I agree with Mr. Franklin that much of the blame must be laid on the heads of some who osten-

sibly presume to lecture on bees and bee-keeping before they have themselves learned even the rudiments of the subject. Apart from the lack of ability to "say their say" in an intelligent manner, their want of experience and imperfect knowledge has been patent to their hearers, who have gone away disappointed, and perhaps disgusted, at both matter and manner of lecturer.

In my somewhat lengthy experience I have met with not a few who have begun to keep bees, and in a short time afterwards have heard of their giving lectures on the subject in the local schoolroom, with what results readers of the B.B.J. must imagine.

It goes without saying that a lecturer to be successful must possess two qualifications—in the first place, a correct and intelligent knowledge of his subject, a knowledge gained by reading and observation and confirmed by practical experience; and secondly, he should have the happy art of conveying in a clear and attractive manner that knowledge to others. The day has gone by for an audience being satisfied by a so-called lecturer reading a "typewritten" lecture, or stumbling over his sentences again and again because he cannot see his "copious notes" by reason of the semi-darkness of the room.

In every department of science and art it is found that when any one has anything to say which is worth listening to he will never need an audience, and surely the theme under consideration is no exception to this rule. I have always found that whether it be a brief *exposé* in the "bee-tent" at a local flower show, or an illustrated lecture in a schoolroom or technical institute, hearers come and listen and testify to the interest they find in the subject.

To secure this, however, it is necessary that the lecturer store his mind with fresh and well-established facts, and seek to illume his subjects by illustrations and incidents he has met with; whilst naturalists, poets, and moralists must be laid under tribute to the same end.

It is surprising how often and to what an extent an anecdote well told or an apt quotation from one of our poets will give brightness to the subject and pleasure to the hearers.

As a proof that the residents of an out-of-the-way district are not unwilling to attend lectures I may say that on the two successive Tuesday and Wednesday evenings of the present and past weeks I have been to give lectures in a village which is five and a half miles from a railway station, the entire population of which does not exceed 200 all told, and on each occasion my audience exceeded sixty persons. No, the people are not averse or indifferent to lectures on bee-keeping or any other subject of practical interest, providing they are assured that the lecturer can talk and that he knows what he is talking about.

I am not quite sure that the B.B.K.A. would be well advised in preparing, as has been suggested, a "typewritten lecture," to be lent out to would-be lecturers. Its only recommendation would be a correct statement of facts respecting the industry; but I fail to see how in the hands of an inexperienced lecturer it would be the means of improving or increasing the industry. — E. DAVENPORT, *Worcester.*

AN ECONOMIC WAX SMELTER

AND FOUNDATION FIXER.

[4306.] Get two empty syrup-tins, one a 4-lb. and the other a 2-lb.; the smaller tin will just drop into the larger one. Make holes in the inner rim of smaller tin and insert stout wires, and form eyes for handle and legs to keep it just even with larger tin. The smaller one holds the wax, and the larger is for water, which is quickly heated and kept hot over a paraffin or spirit lamp.

Three duck-wing feathers bound neatly together form the very best possible tool for applying the molten wax. The feathers are very stiff, besides being pointed and slightly spoon shaped. When using one can neatly work the wax into the angle, so that it makes a perfect attachment of foundation to the wood. I can fix foundation more rapidly and make a neater, stronger, and more durable job as above than by any other way. Out of many hundreds of sheets so fixed I have not yet had one go defective. It is far-and-away better than grooves, kerfs, &c.—A. H., *Wavendon, Bucks.*

Queries and Replies.

[2606.] *Keeping Bees in Greenhouse.*—I would be much obliged for a word of advice as a beginner. My case is this:—"I have a skep (very weak in bees at present), and after moving it into our greenhouse I am feeding with candy. But seeing the warning given about keeping bees in glasshouses I am in doubt whether it would be best to leave the skep in the house or put it outside again (it wintered inside a large roofed-box well covered with quilts) as I am afraid the bees might die owing to the change, I ask:—1. Would you advise me to leave the skep in the greenhouse till middle of April or put it in the box and let it take its chance? 2. Also can you give me the name of the secretary of the Irish Bee-Keepers' Association? I live in co. Londonderry and am only temporarily located here.—G. F. GILLILAND, *Harrow-on-the-Hill.*

REPLY.—1. Under no condition is it advisable to keep bees in a greenhouse, therefore you should take the earliest opportunity of removing the skep outside. Take whatever precautions you like in the way of keeping the bees warm, but don't delay in moving as they will soon be taking wing and then mischief will begin if they are under cover of

glass. 2. The Hon. Sec. of the Irish B.K.A. is Mr. M. H. Read, *Clonoughlis, Straffan Stn.*

[2607.] *Removing Bees from Trees.*—Could you or any reader of the B.B.J. kindly tell me of the best way of removing bees out of a hollow tree? I have kept bees some years, and have already tried to accomplish the task, but not with success.—THOMAS EVANS, *Aylesbury.*

REPLY.—There is no fixed plan of removing bees from hollow trees; it is an operation the success of which depends largely on individual dexterity and aptitude for bee-work. The photo of "curious hives" reproduced on page 115 last week affords a couple of examples from nature of bees in hollow trees, which serve well to illustrate the impossibility of removal without cutting down the trees in which bees are located. In some cases, no doubt, the tree trunk may be so much decayed that the bees could be "got at" by easily removing the rotten wood, and so exposing the combs for dealing with by cutting away, but in the tree-trunks illustrated no such chance would be afforded, and the only way of utilising the bees was carrying them off as described on page 115. On the general question of removing bees from hollow trees, however, we consider "the game is not worth the candle." Driven bees can often be had from cottagers for a trifle beyond the trouble of "driving," or driven lots can be bought at a very low price per pound, so that from the practical point of view we do not advise any one to try removal except in cases where the tree is valueless and can be removed bodily after cutting down as a stock of bees.

[2608.] *Building up Stocks from Driven Bees.*—Will you please tell me what has caused the death of a stock of which I enclose the queen, a few of the bees, and a piece of comb on which they died? The stock was made up of five pounds of driven bees in November last, and I fed them at the time till they had eight frames of stores, after which I put a 3 lb. cake of candy on top. I also put some naphthaline in the bottom of hive outside of dummy.—R. HUNTER, *Carlisle.*

REPLY.—There is nothing in either bees or comb to indicate the cause of bees dying. We may, however, safely account for the mishap by saying that the month of November is altogether too late in the year to attempt building up stocks from driven bees. Mid-September, or even earlier, is the proper time, if success is to be counted on.

[2609.] *Allowing Bees to Transfer Themselves.*—I have several skeps of bees which I propose driving next month, putting the bees into frame-hives; but before doing so, will you kindly tell me what I am to do, supposing there are eggs and brood in the skep after the bees have been driven? Is it possible to transfer the bees in the skeps to the frame-hives by placing the skeps on the top of the frames, when the bees would be obliged to pass through the frame-hives to find their exit?—APIS MELLIFICA, *Bletchley March 21.*

REPLY.—You had better give up all idea of transferring the bees by driving in April. There are sure to be eggs and brood in the combs which would be sacrificed if not cut out and tied into frames. This is not an operation easily performed, nor is it desirable to have your new frame-hives filled with old combs from skeps. Allow the bees to transfer themselves as directed in the "Guide Book," where will be found full instructions for transferring.

[2610.] *Feeding Bees in Skeps and Transferring to Frame Hives.*—As a beginner in bee-keeping I should be glad to be helped through your valuable journal. A month ago I purchased a stock of bees in a straw skep and placed them on a stand. It is my intention to transfer the bees to a frame-hive and I should like to know—1. Whether this should be done now (and if so, the best way), or whether the bees ought to swarm first, and the swarm be placed in the hive? 2. I notice the bees are collecting pollen, and I have just put a bottle of syrup over hole in the top of skep. Is this the right way to feed bees in a skep? 3. About how much smoke is required to subdue bees, and what is the best material to use to produce smoke? I have purchased the B.B.K. "Guide Book," but am very reluctant to proceed without further advice.—F. H. HOLDAWAY, *Wroxall, March 25.*

REPLY.—1. As a beginner, possessing only one stock of bees in a skep, we recommend you to let the bees swarm naturally—as they promise to do early, seeing that they are carrying in pollen well in March—and hive the swarm as directed in your "Guide Book." 2. If the bottle of syrup is properly adjusted, and well packed round at its junction with the straw of skep to prevent escape of warmth, your method of feeding is quite correct. 3. All depends on the operation to be performed. Usually a half-dozen puffs will suffice at starting, but more smoke is needed if the bees get restless and inclined to sting.

[2611.] *Re-hiving Double Stocks of Bees.*—I have wintered two lots of driven bees in a double hive, the latter having a fixed bottom-board. I now want to let one lot have use of all the hive, as I consider it too small to accommodate two lots (it only takes thirteen frames). I therefore ask—If I remove all frames from one lot and put them in another hive, will the bees go back to the double hive? Would it be best to put transferred lot to stand next the double hive, or should I move it to the other end of the apiary? The double hive has two entrances on front, both on same alighting-board, with a small partition between them.—C. F., *Conway.*

REPLY.—Place the new hive entrance as near to the old one as possible, and fix up a large division-board between the two doorways. The bees would return to the old place if moved away, and so be lost.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. A. TANNER (co. Down).—*Bees Robbing Infected Hive.*—1. The hive in which bees died is affected with foul brood of long standing. It was a fatal mistake to allow the bees of "about thirty skeps" to have access to the hive referred to. Only time will show what the probable damage will be, but meantime we can only advise the use of preventives. 2. Young queens of last year that failed to mate are now useless.

J. G. R. (Crawfordjohn).—*Varieties of Bees.*—No. 1, Ligurian-Carniolan hybrids; No. 2, slightly marked Carniolan hybrids; No. 3, well-marked Cyprians.

M. BEAMISH (co. Cork).—*Painting Hives.*—If the hives are painted after bees have ceased working for the day no harm will follow, as paint will be dry by following morning.

HAWTHORN (Leicester).—*Honey Samples.*—The difference in colour and flavour is solely attributable to the different flowers whence the nectar was gathered. No. 1 is a good sample. No. 2 fairly good.

*** *We regret being compelled to hold over several articles, already in type, until next week, owing to want of space.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TWO SKEPS of BEES, 10s. 6d. each, packages free. FILTNESS, Devizes-road, Swindon. E 67

ENGLISH and ITALIAN BEES FOR SALE, in frame-hives. T. HILL, Scotlands, Cannock-road, Wolverhampton. E 81

BEES FOR SALE, five on frame hives and four in skeps; in good order; clearing out; £6 10s. HORRELL, 4, Craig-street, Peterboro' E 75

56 LB. rather dark HONEY, 28 lb. tins, 4d. lb. GEORGE THOMPSON, Helpringham, Heckington, Lincolnshire. E 80

FOR SALE, three cwt. SAINFOIN and CLOVER HONEY in 14 lb. tins. A. SHARP, The Apiary, Brampton, Huntingdon. E 68

35 STONES BEST HEATHER HONEY; 14 lb., 7s. Carriage paid on 6 stone. THOS. HOOD, Pickering. E 77

BEES.—Twelve last year's SWARMS, plenty of Bees and Stores, 12s. 6d. each. E. LONG, Fulbourne, Cambs. E 73

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. E 70

200 LB. SAINFOIN HONEY, best quality. What offers? Sample 2d. W. MORRIS, Apiary, Litlington, Cambs. E 72

FOR SALE, several years of the *Bee Journal* and *Record* in good condition. No reasonable offer refused. SHORT, 98, Fore-street, Kingsbridge.

LANTERN SLIDES.—Lecturers on the Honey Bee will do well to add "Enlarged Worker—Under Side," to their collection, price 1s. Apply, RECTOR, Farndish, Wellingborough. E 69

ITALIANS, first-cross, best honey gatherers. Good tempered. Strong ten-frame stocks, with last season's Queens; guaranteed free from foul brood. £1 each. O. KNIGHT, Epney, nr. Stonehouse, Glos. E 76

Prepaid Advertisements (*Continued*).

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

POTATOES FOR SEED.—"The Schoolmaster," first-class white round potato, peck 1s. 3d.; half-bushel, 2s. SHALLOTS for present planting 3d. lb., fine bulbs. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

ADVERTISER, open for Engagement to ASSIST in or TAKE CHARGE of large apiary. Fully competent. Fair amateur joiner. Willing to fill time up in garden or fruit plantation. A. B. *Bee Journal* Office. E 79

NINE LB. BEESWAX, 1s. 6d. per lb.; Buff Orpington Eggs from massive, good colour, 9-lb. pullets, 3s. 6d. sitting. Unfertile (if any), replaced. Am booking orders now for early June natural swarms of my well-known strain. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. E 78

FOR SALE, several cwt. EXTRACTED CLOVER HONEY. A. J. NOYES, Pewsey, Wilts. E 48

GOOD STOCKS of superior BEES for Spring delivery. JOHN WALTON, Honey Cott, Weston, Leamington.

18 SEED PACKETS of choice popular bee-flowers, with cultural directions, post free for 1s. 3d. GUTHRIE BROS., Seed Merchants, &c., Alloway, Ayr.

25TH YEAR.—Reliable STOCKS in hives, or frames only; also Nuclei. Skeps, 10s. 6d., 12s. 6d., 15s. Packages free. ALSFORD, Expert, Blandford E 41

ON SALE, a few STOCKS of BEES in standard bar-frame hives; bees and hives in good condition. L. BAILEY, 55, Park-road, Leek, Staffs. E 46

EXTRACTED ENGLISH HONEY, 11s. 6d. per ½ cwt. Tins free. Sample, 2d. Deposit system. RICHD. DUTTON, Terling, Witham, Essex. E 65

TWO beautiful 1900 QUEENS, 4s. 9d. each; guaranteed. Pure AYLESBURY DUCK EGGS, 2s.; sitting. Best sort out. SPEARMAN, Colesbourne, Cheltenham. E 52

2/2.—BEE GLOVES, 2s. 2d. per pair, post paid. Special terms for wholesale buyers. Manufactured by EDWARD REYNOLDS, Glove and Gaiter Manufacturer, Andover.

WANTED a BOY to look after BEES and work in garden. Board, lodging, and moderate wages. Apply, stating experience, to "H. A. H," Office of this Paper.

15 STRONG STOCKS Non-Swarming BEES in brood box, 25s.; or with the "Wavendon Swarm-Preventing Hive," 42s. 6d. each; securely packed. Twenty years' "Bazaar" reference. ALBERT HARRIS, Wavendon, Woburn, Sands. E 50

BIDDIES and BEES.—If combining the two, perhaps you would like an Incubator and Rearer. Why not make your own? A Shilling Illustrated Handbook of Construction given away. Send stamp for particulars, EDWARDS, Shrubshill Apiary, Sunningdale. E 51

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

GREAT BARGAINS in everything useful in or about a house (from an Autograph to an Orchid, from a Toy to a Typewriter, a Mail Cart to a Motor Car, &c.) are to be obtained through *The Bazaar, Exchange, and Mart* Newspaper, Easily, Cheaply, and Quickly. "Like all grand conceptions, the process is remarkable for its simplicity." If you want to sell anything for which you have no present use, you can do so most readily and advantageously through the medium of the same paper. In addition the vast amount of interesting and practical information contained in its pages makes *The Bazaar, Exchange, and Mart* an unequalled journal for the Amateur and Collector. Get a copy and judge for yourself. 34th year of publication. Price 2d., at all Newsagents and Railway Bookstalls, or specimen copy post free for 3d. in stamps from the Office, 170, Strand, London, W.C.

CUMBERLAND BEE-KEEPERS' ASSOCIATION.

WANTED EXPERT, for tour in May.—State particulars, terms, and references, HON. SEC., Gillbank, Boot, Cumberland. 4

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 123.)

Mr. Lee also showed a small cabinet, with glazed lid, containing a collection of entomological specimens. It was intended for the use of teachers and lecturers in schools; for lecturing purposes, or indeed wherever technical instruction in bee-keeping was given. The box, though small, was compactly arranged and contained quite a large number of interesting items preserved in spirits in glass phials. There were also pinned out specimens of queen, drone, and worker bees along with eggs and larvæ in all stages of development, a combed section, samples of foundation, pollen, propolis, &c., with other useful things for illustrating bee-life. The cabinet was handed round and highly approved of by all.

The Chairman expressed the thanks of the meeting to Mr. Lee for showing his interesting and very useful exhibits, and spoke in commendatory terms of the travelling box, as well as the case for entomological demonstration in schools.

Mr. Sladen showed several cards cut to size for the purpose of illustrating the comparative sizes of different sections, and spoke in favour of the tall, thin section as used in America. He said that the 4¼ in. by 5 in. section had four special advantages. Firstly, a 1¼ in. to 1⅜ in. comb was more easily and quickly filled than a 1½ in. comb. That was the testimony of practically the whole body of bee-keepers in America and of many in Britain. All the standard sizes of sections in America were thinner than the British. Secondly, bees could work in a larger section more easily than in a smaller one. Thirdly, a large and tall section was likely to sell better than a small and square one. The new tall one, while being the same width across as the square one, was ¾ in. higher. Not only had it a larger surface, but it was of a more pleasing and attractive shape. They had learned to like the oblong, tall shape of such common objects as windows, doors, picture frames, photographs, books, &c. Imagine a room where all the objects were square. How wearying! Most articles for sale in chemists' and grocers' shops were put up in oblong packets. This was well instanced in the case of the tall glass honey-jar, which in many places had driven the old-fashioned, short, wide one out of the market, despite the difficulty often experienced of removing granulated honey from it. Lastly, twenty-four of these sections would just fit into an ordinary section-rack-made to take twenty-one of the usual square sections, by the simple addition of a ¾ in. rim of wood round the top edge. The advantages might be summed up thus: easier produced and easier sold. Of course, that remained to be proved in this country. The tall section had not yet been tried here. All he asked was that they might be given a trial on a small scale by bee-keepers, and the results carefully noted.

Mr. Carr said the all-important question was what consumers liked best.

Mr. Hooker, when in America, saw more of the 4¼ in. by 4¼ in. sections than any other size, but his observations were confined principally to the neighbourhood of Philadelphia. He knew the tall, thin sections were used. The Canadians also showed them on their visit to England some years ago. He (Mr. Hooker) tried them and gave them up.

Messrs. Walker, Reid, Young, Sladen, Hooker, and Carr continued the discussion.

The Chairman said that, looking at the matter from a commercial point of view, customers would not notice that the surface of the section was larger than ordinary size, whilst they would be sure to observe that it was thinner.

Mr. Young pointed out that there would be extra wax with the larger section; but Mr. Sladen replied that the additional percentage was inappreciable.

Mr. Belsham advocated the use of the 2-lb. section, which he had adopted entirely. He believed more honey was obtained thereby, and that the bees filled a 2-lb. section quicker than they did two each weighing 1 lb. Mr. Hooker also favoured the 2-lb. section, and recommended those present to give them a trial in the coming season.

Mr. Reid said he had been asked by several members, to whom he had shown wax moulded by a new method, to explain the process. The object was to get the wax into an agreeable and artistic form for sale, and avoid the common square or irregular, uninteresting shapes. The purpose for which wax was sold retail generally required that it should be in small pieces. He would not go fully into the details of getting wax out of bee-combs. It was said by some, "what was the good of melting down old combs?" Certainly if done in one way no wax might be obtained. In old combs there was a good deal of porous, absorbent material, such as the accumulated skins of the pupæ in the cells, pellets of pollen, and other things that would absorb the wax. If the combs were simply heated to the melting point of wax, there might be no wax at all, these objects absorbing it. The same thing might take place if the combs were put whole into boiling water—the wax was absorbed by the solid materials. But if they were broken up into small pieces—say by means of a sausage machine—and then stirred into water, which, when muddy, could be strained off, then the pupæ skins would be saturated with water and the result would be plenty of wax out of the old combs. Even with the Solar wax-extractor it was always best to get the pollen washed out of the comb if possible. He extracted all

his wax with the Solar extractor, in which there should always be a little moisture present. According to Tyndall the vapour of water was a bad conductor of heat. The mildness of the climate of this country was attributed to the vapour blanket covering the earth, which retained the radiant heat. As a practical fact he found that with a certain amount of moisture the wax was melted quicker than it would otherwise be. The Solar extractor bleached the wax, and to some extent diminished the aroma; but he was not aware of any purpose for which wax was used where the retention of the aroma was necessary, except, perhaps, for judging on the show-bench. The aroma *per se* had no marketable value. The colouring matter in wax was chiefly due to pollen. Sulphuric acid was sometimes used to bleach it, and some of the makers of foundation used this bleaching agent. It was an easy thing to put sulphuric acid in, but difficult to get it out completely. He had seen foundation refused by bees, which upon examination was found to contain sulphuric acid in considerable quantities. He was more inclined to attribute the refusal of foundation by bees to that cause, for he had found by experiment that bees did not refuse foundation upon which the lubricating liquid used in making it had been left. It had been noticed that bees sometimes take to dark foundation quicker than light, probably that was because of the chemical process used in the bleaching of the lighter-coloured material. It must not be forgotten that sulphuric acid might contain arsenic. The colouring matter in wax was of an acid nature, and would darken if an alkaline, or even calcareous water, were used in extracting. Only rain-water should be used, if procurable. Boiling the water first might take out a certain percentage of lime and iron salts, and thus a slight improvement in colour might be effected. Where a large quantity of wax had accumulated the different cakes would generally be found to vary in tint. To obtain a uniform product these cakes should be bulked in one mass, which could be done by melting in an oven. The next step was to subdivide the wax into pieces of a size suitable for the market. This was best done by casting into a round wooden mould kept constantly wet by immersing in tepid water. Another method was to cast a long rod of the required diameter, and then to cut it up in pieces at a temperature of about 100 deg. In casting such a rod it was advisable to chill the mould at once, and by keeping the wax liquid at the top air-holes could be prevented. Having obtained small circular cakes of wax, the next stage was the moulding. The simplest implement for this was a little butter-mould—a ring of wood about 1½ in. internal diameter, into which fitted a disc of wood upon which the design was engraved. The mould was kept wet, and when in use was placed upon a piece of wet wood or fabric. The discs of wax and the mould were warmed to 126 deg. Fahr. by immersion in hot water. A thermometer was necessary for successful working. A moderate pressure then sufficed to impress the wax with the design, which was much sharper than anything that could be produced by casting alone. After pushing the wax out of the mould, it was advisable to dip it into cold water for four or five seconds; this chilled the surface of the wax and facilitated removal from the engraved part of the mould. The principal trouble in working was to prevent sticking. If the moulds were not heated up to the proper temperature or made wet enough, there might be a mishap. Should there be adhesion to the mould the latter should be immersed in the warm water, when a piece of plastic wax pressed against it would remove any particles of wax adhering to the mould. On a larger scale a hand-press would be useful, and a number of moulds of different patterns and sizes. There was no doubt that elegant and attractive samples of wax would secure more favour than shapeless and ugly blocks of it.

Mr. Reid then handed round for inspection several specimens of wax beautifully prepared by his own hand in various ornamental shapes; they were much admired.

Mr. Weston was delighted to hear Mr. Reid say that after his experience with the solar extractor he would use no other; but with regard to having a certain amount of moisture in the extractor he would ask Mr. Reid to reconsider his advice. The appliance was a box having a top pervious to the sun's rays, which were required to raise it to a certain temperature. His experience was that the sun would work at the easiest part of its labour, *i.e.*, the evaporation of the water, and until that had passed into vapour the wax would not reach a sufficiently high temperature to begin to flow.

Mr. Reid intended it to be understood that there should be moisture in the extractor only to the extent of it being full of aqueous vapour. Nevertheless, he had taken a cube of rather impure wax and found it would not melt in the extractor, upon which he applied ½ oz. of water, and it soon melted. He had experimented with a thermometer, which registered an increase of heat when aqueous vapour was present.

After some further discussion, in which Mr. Hooker and Mr. Belchamp took part, the Chairman moved a hearty vote of thanks to Mr. Reid in acknowledgment of his clear and able explanation, for which the meeting was much indebted to him. Wax was an important product, and any means that could be adopted to promote its sale would be an advantage to bee-keepers.

Mr. Hooker seconded the motion, which was carried unanimously.

A vote of thanks to the chairman for his presidency closed the proceedings.

IRISH BEE-KEEPERS' ASSOCIATION.

A special meeting of the committee of the I.B.K.A. was held on March 9 in Dr. Traill's rooms, Trinity College, W. J. Delap, Esq., J.P., and afterwards Rev. J. G. Digges, in the chair; also present Dr. Traill, Messrs. Abbott, O'Bryen, and the hon. sec. Mr. Henderson's resignation of the hon. secretaryship for co. Carlow was reluctantly accepted.

A communication was considered from the secretary of the British Bee-keepers' Association stating that the Baroness Burdett-Coutts had expressed a wish that the I.B.K.A. should be represented at the Agricultural Show at Belfast, and that she was willing to contribute to the cost. The secretary was instructed to ask the Belfast Show Committee for the necessary facilities.

The correspondence relating to the proposed Irish Bee Journal was submitted, and the secretary was instructed to communicate with the Department of Agriculture and the County District Board. A sub-committee, consisting of Messrs. Abbott, Digges, Gillies and Read, was appointed to arrange for the publication of the journal should sufficient grants in aid be promised.

A committee meeting was also held on March 21, in Dr. Traill's rooms, W. J. Delap, Esq., J.P., in the chair. The hon. sec. reported that the Council of the Belfast show had granted facilities for the bee tent, and for an exhibition of hives and bee-keeping appliances. The arrangements with the Council of the Belfast Show were confirmed, and a deputation was appointed to meet the Baroness Burdett-Coutts on behalf of the Association.

It was resolved that local associations, of which no report or affiliation fee should have been received in time, should be omitted from the annual report of the Association.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

HONEY AT THE DAIRY SHOW?

[4307.] The Council of the B.B.K.A., having empowered me to receive subscriptions in aid of prizes to be offered for honey, &c, at the forthcoming Dairy Show, I shall be obliged if those of your readers who consider the department should be continued, and are willing to help in maintaining it, will be good enough to forward their donations to reach me not later than Thursday, April 18, when the schedule must be arranged. To retain the classification as last year, and to add prizes for honey in sections other than 4¼ in. by 4¼ in. by 2 in. (as proposed) will require over £20, which the Association cannot possibly guarantee from the ordinary income of the Society. If less than the amount named be subscribed, it will, of course, be necessary to cut down the prize list accordingly.

A few donations have already come to hand, and a list of these, together with any further sums which reach me during the next few days, shall be forwarded for your kind insertion in the B.B.J. of the 11th inst.—EDWIN H. YOUNG, Secretary, 12, *Hanover-square, W., April 2.*

SIZE OF SECTIONS.

[4308.] Sometimes the words of one friend solve the difficulties of another, which then do not need so full a reply from me. Thus last week Mr. Phil Jones (on page 114) partly answers Mr. John Brown's letter (page 113). I can assure the last-named gentleman that nothing he has written will damp the ardour of those who feel the importance of the subject, whose aim is nothing less than to harvest an additional 25 per cent. of comb-honey, which we think ought to be secured. We have no desire to upset the thousands of hives in the country, only to invite all who are like-minded to take another step towards improvement by trying some of the new sections.

The time to fix upon any section as a "standard" will come when the vast majority are convinced about its commercial superiority, and are willing, after due consideration, to adopt it. Besides what Mr. P. Jones says about altering racks, I would suggest another simple way of experimenting—by inserting in a ten-frame super five frames holding the new sections in lieu of the six central ones. Would that involve much labour and expense? Mr. P. Jones also alludes to Mr. Howard's plan of using the sections short way up. There may be some advantage in it. I hope to try both, but at present I am inclined to favour the length being vertical in shallow-frames. I, however, remember how years ago some able bee-keepers preferred the 4 by 4½ in. section. These had two points to recommend them. In shallowness they resembled the Stewarton supers, and the racks for them covered the brood-frames nicely without the addition of laths. Mr. Finlay's method (4278, page 102) of improving section-racks is interesting. He will probably get a few more sections completed by it; but, unfortunately, it does not tend towards simplification, and the results may not be good enough to justify its adoption.

In reply to Mr. Taylor, of Welwyn (4281), I would say that the "expensive way of supering" is the one which gives the worst results. I have longed for years for 1-lb. sections of such a size that three would fit a

shallow-frame, and when we have got these, the section racks can go overboard, and the separators may follow them as soon as we have discovered the exact conditions necessary to place the hanging sections in the position of shallow-frames, spaced at 1¼ or 1⅜ in. from centre to centre. In these latter I have observed and admired the rapidity and perfection of bee-work even in moderate seasons. Now, my friends, who are thoroughly practical bee-men, and I have frequently asked each other, why should not the bees do similar work in sections? We believe they can. At any rate we mean to try and see how near we can approach this high ideal. When this problem is solved, the shopkeeper will be only too glad to have a regular supply of the new section honey-comb than a fitful supply of the old. The last season there was a fair amount of extracted honey. Where were the sections! Echo answers where?

In justice to myself, perhaps I ought to notice the clever article (4264, page 87) of our masked Northern friend, whose tone is surely that of one advocating a losing cause. I would ask your readers whether his style of argument does not point to a want of confidence in the strength of his position, or in his ability to defend it? As he shelters himself behind Mr. McNally, he can take what cover he can find in the following quotations:—Mr. McNally wrote in the *Record* of February last:—"From a bee-keeper's point of view, and taking one season with another, there are other sizes (than the 4¼ in. by 4¼ in. by 2 in.) that give better results. . . . . In 1887 (one of our best honey seasons) I went in largely for sections 1⅝ in. wide, and I then proved to my own satisfaction, at least, that this narrow make was quicker filled than the 2-in. wide ones. . . . . Within the last year or two, tall sections have also been on trial. These are supposed to give a better appearance, but my experience of them—*which has only been limited*—did not warrant my adopting them to any extent. In all probability the coming season will see a more extended trial of the no-bee-way section . . . . and which, it is to be hoped, will bring comb-honey production within measurable distance of that 'high standard' so much desired by every bee man."

No; Mr. McNally, far from imagining self-complacently that he has attained to the pinnacle of perfection, is amongst those who, with banner "Excelsior" in hand, see before them yet higher heights to conquer. Mr. D. M. M. thinks he has scored a point by referring to my former advocacy of extra thick combs. I have already stated how, owing to our seasons, I have been compelled reluctantly to retrace my steps in this respect. I still admire the thickest, but for commercial purposes their production I have since found to be impracticable. Once, when a bee-keeper modified his conclusions in reference to the use or non-use of foundation in the brood-nest, he said, "I shall always proclaim what I believe to be the truth, even if it does conflict with my former published conclusions." Whereupon an editor remarked, "That has the right ring to it. If there is one thing that does the pursuit damage, it is the persistent clinging to old notions. A man who cannot change his opinions occasionally, on reasonable evidence, should not be trusted too implicitly. It is no weakness to change your mind; but when it is necessary, come out and say so like a man."

Next I would turn to one or two questions: We are asked, "If we make any change, who will determine what the change shall be?" I reply, those who are diffident in their own powers of selection might request the authorities of the various Bee-keepers' Associations for a little grandmotherly legislation. How would it do to suggest the appointment of a special "Section" Committee? These gentlemen could hunt up the Bee journals in the archives of St. Jermyn-street (though I doubt if they could find all), and carefully weigh the pros and cons recorded hitherto. Thus primed, they could intelligently experiment on the most promising lines, and in course of time we should be glad to receive their report.

On the other hand, a few enthusiasts may take the lead, and if they are successful with any section, others will have opportunities of comparing the points between the old and new either in the market or on the show-bench, and thus the change may be brought about more or less rapidly.

Again, Mr. D. M. M. says:—"We have not attained to perfection certainly, but we frequently approach it." What mortal can say more? Here are three answers: 1. Try to approach perfection more frequently. 2. Prove that you do frequently approach it. 3. At least defend what you consider a good cause in a worthy manner.

And now let me ask my opponent a question or two. He removes certain words from their context and says they are the essence of my argument. Can he point to any standard work or debate which mentions this as a fair method of argument? If thus, he proves I have come down from "cloudland." Has he also reached the aërial mists in the balloon lately sent up from the *Record* (p. 35) inviting an argument, as I notice the expression "I think" occurs four times? Again, does he imagine that those who have outlived the sneers of the skeppists' "fads," "new fangled," are now going to be deterred by their feeble echo? Once more, when he says "yet he considers some of us are not friends of apiculture" because we stand up for the present section can he fairly infer this from my words? If he thinks he can, he may ask the youngest Highland village schoolmaster whether there are not two degrees of comparison between my expression and his.

No, I am ready to look upon him as a good friend of the cause, and how much more will depend upon himself. For instance, I note

with pleasure a sentence of his in this month's *Record:* "The highest authorities state that the relative proportion of comb to extracted is something like 30 lb. of comb to 50 lb. of extracted honey." Here we are happily agreed, though we may differ as to the cause of the discrepancy. But I cannot forget what he was so good as to tell us, how he could make his bees take to five racks of sections at a time. Is it unreasonable to ask how many were completed? Were any tarnished? If he can get most finished in a moderate season, all I can say is that it would be worth while for many of us to visit Banff for an object-lesson, and the sight would compel us to regard him as one of the foremost bee-masters of our time.—RICHARD M. LAMB, *Burton Pidsea Rectory, Hull.*

[As mentioned on page 127 last week, the very interesting discussion on "size of sections" is now closed for the present.—EDS.]

SOME ESSEX NOTES.

WINTERING BEES IN GLASSHOUSES.

[4309.] It is not at all uncommon for those in charge of peach-houses to place a hive of bees inside these structures, the idea being that bees, having their hive in the house, will be better able to work upon and fertilise the peach-blossom. This is an entire mistake, for it will be found that such bees as are able to find their way out by the door or the ventilator return to the old stand outside and are lost, while those that are unable to find an exit from the house exhaust themselves in their efforts to do so. The number of bees that find their way back into their hive when the latter is placed in a glasshouse is extremely small, the more so by reason of the usual necessity for placing the hive in an out-of-the-way corner of the house. The artificial warmth of the house also causes more bees to leave the hive than would be the case if the latter remained out of doors. In this way quite a few days suffice to rob the hive of the labour of nearly all its best and strongest flying bees, which, on discovering their confinement, will at once exhaust themselves by dashing against the glass, in their endeavours to reach the open air, without having visited a single flower. Not only, therefore, is little or no good done by placing hives of bees in peach-houses, but much of the brood in the combs will die from lack of attention and warmth. It then decomposes and rapidly becomes a source of danger to other stocks of bees. Such bees as find their way of their own will into a peach-house from outside do ten times the work that confined bees are supposed to do, and benefit by that work, though, as is well known, a large number are always lost, being unable to find their way out of the house.

I recommended the destruction of one of two hives of bees that I found in peach-houses last spring at once, and the other was practically valueless. I had intended to refer to this earlier, and the query of G. F. Gilliland (2606, page 128) last week reminded me of it.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex, April* 1.

ERRATUM.—Page 126, line 13 from the bottom, for "weight" of supers read *height* of supers.—W. L.

HAZEL CATKINS AND BEES.

[4310.] It appears from recent issues of the BEE JOURNAL some correspondents seem to have decided that bees visit the catkins of hazel, while others are certain they do not. Last week Mr. W. Woodley asked (on page 124), "Why some blossoms produce one nut only, while another will produce a bunch of ten?" I offer the following as a solution of this question:—The hazel belongs to the order *Hamamelidaceæ.* It is a *tree* or *shrub* with alternate simple *leaves* and deciduous stipules. *Flowers* in globular heads or spicate, perfect or polygamous, unisexual or monœcious. *Calyx* superior four or five-lobed. *Petals* four or five, with an involute or circinate æstivation, or altogether wanting. *Stamens* eight, half of which are scale-like, sterile, and placed opposite to the petals, and half fertile and alternate with them, or numerous. *Ovary* inferior, two-celled; ovules solitary or numerous; styles two. *Fruit* capsular, two-celled, with one seed in each cell; seeds albuminous. As the catkins may either be perfect or polygamous, unisexual or monœcious, it will be quite easy of comprehension that in the former case the ovary may contain many ovules bearing an equal number of fruits, and in the latter only a single ovule producing only one fruit.

Although, as pointed out by Mr. W., the mode of fructification is accomplished by the falling pollen from the vertically hanging flower, it does not follow that one catkin should bear more than one fruit, because the catkin may be a unisexual flower with only a single-celled ovary, which will produce one nut only.—A. W. SALMON, *Waltham Abbey, Essex, March* 30.

BEE-KEEPING IN CORSICA.

[4311.] While driving recently through certain villages high up in the mountains of Corsica, I was offered in the daily fare honey of a very thick brown colour, and, as I think, of very good flavour. Being interested in all matters in relation to bees, I asked to be shown the hives, and gathered certain information about their bee methods. All are unfortunately of a very primitive order. First, the hives. These are placed on the terraces (for the most part) where the vines grow, which, being kept low, do not afford any protection from the sun, which in summer is very hot. They are of wood, cut in thick rough lengths

from the chestnut-trees, and are about 4½ ft. long by 1 ft. high and 1 ft. broad. Owing to an accident with my kodak I was unable to take a photo.

In some cases the ends had a sort of handle by means of which to draw them out, as this is the only way of getting at the honey, while the bees find their way in and out by any crack they can. At the end of the season they smoke the bees with paper, &c., stuffed in one end, and then cut out the comb (which in all cases I examined hung evenly), put it into a bag and squeeze out all the honey, while the wax goes to form the candles for their churches. I explained as well as I could to the owner of one of these apiaries (about a dozen hives) how we managed in England, and although he seemed interested I don't think he will ever try to improve upon his present methods. There is an abundance of honey-plants all over the country, the chief source being, I think, the various kinds of heaths called "maqui." Besides wild flowers, there are the arbutus, cistus oleander, and myrtle, all of which I believe are honey-producers.

I do not know if this will be of any interest to your readers, but write this account on the chance that it may. Personally, I felt very envious of the long season they have in the island (the bees were very hard at work during the warm days of February) and I am anxious to return to see how mine are getting along.—D. MAPPIN, *Epsom, March* 28.

HOW TO CLEAR A DISTRICT OF WASPS.

[4312.] It would be interesting to some of your readers to hear how I cleared this district from wasps last year.

For many years past we have been sorely troubled with these pests to gardeners and bee-keepers, and in my garden, along with others, they have eaten up or spoiled a great part of all the fruit. For some years I have had all nests destroyed about me that we could hear of, or find, but the more we destroyed the more wasps seemed to visit my garden. Several years ago I had heard of offering a price for dead queen wasps, so I arranged with our local post-office to allow a notice, written by myself, to appear in their window offering 1d. each, or 1s. per dozen, for all dead queen wasps brought in to the end of May. When the weather became a little warm, dead queen wasps began to come in, and by the time they got fairly active we had dead wasps coming in rapidly, in all to the number of 478. Some bought tobacco, newspapers, or chocolates with the proceeds, while some took the money. A little mite came in one evening last May, saying, "Please, I have brought a wasp, and I was to have a *Daily Mail* and a *Daily Argus* for it"—the two halfpenny Birmingham evening papers, with, at that time, the latest war news! A friend met me at the post-office one morning, who said: "I have brought a queen wasp for my *Daily Post*. I have had a wasp for my *Post* each day this week, and I have one in hand for to-morrow!" One day a little girl brought in no less than nine on a piece of cotton.

I do not know how many there would average to a nest for a season, if like bees, where those born first would die in a couple of months and be replaced with others; and putting 5,000 to a nest, and allowing a 10 per cent. loss of queens from any cause, over 2,000,000 wasps would be accounted for and prevented coming to life. Anyway, this whole district was practically cleared, much to the satisfaction of many friends, who used to have their jam-pots raided and cleared, honey or fruit on the tea-table hardly put down before the wasps were on it, and many stings and annoyances prevented.—J. H. PARKES, *Dorridge, March* 26.

"WELLS" *versus* SINGLE HIVES.

[4313.] I would recall Mr. Woodley's attention to his remarks in "Notes by the Way" (4300, page 123) on "getting racks of sections filled in five days." In the season of 1894 I extracted all honey from one continuous surplus-chamber on a "Wells" hive containing nineteen shallow-frames, and just one week later these frames were all filled, sealed, and extracted again! These facts should go a long way to prove Mr. Lamb's remarks on sections being completed in five days. In reference to Mr. Woodley's second remark, about "'Wells' Hives *v.* Single Hives," on the following page, how any one can contest this passes my comprehension. If he refers to my report, January 24, 1901 (4221), he will find the result from "Wells" hives and also from single hives, the "take" of honey from my best "Wells" hive and from four of my best single hives. My best "Wells" hive nearly beat the take from the four best single ones. Taking three of my best single hives against my best "Wells" hive, he will find the "Wells" beats the three best single hives by 25½ lb. of honey. Perhaps after these facts he will kindly reconsider his remarks. How any one can contest this passes my comprehension.—J. H. HORN, *Bedale, Yorks, April* 1.

SOUTH OF SCOTLAND B.K.A.

THE GLASGOW EXHIBITION.

[4314.] In reply to your correspondent "D. M. M., Banff" (4301, page 124), will you kindly allow me to inform him that the South of Scotland B.K.A. are at present in communication with the Directors of the Glasgow International Exhibition with a view of holding an exhibition of apiarian produce worthy of the occasion. It is our intention that this shall be the finest exhibit of honey ever seen in Scotland, and if possible we shall arrange to have an exhibit from our bee-keeping

friends across the water. "D. M. M." will, no doubt, be fully aware that last year we held an exhibition of honey in Glasgow, principally for the benefit of Scotch bee-keepers, yet only five—other than those in our own district—gave us their support, and "D. M. M." was not one of them. If he or any other bee-keeper would like to participate in making this exhibition a success, let them send their subscriptions (which will be duly acknowledged) to me at once.

How can it be said that there is no Scottish Bee-keepers' Association, when the S.S.B.K.A. can afford to hold two exhibitions in the year, namely, at Dumfries and Glasgow?—JAMES KERR, *Hon. Secretary, S.S.B.K.A., Milldamhead, Dumfries.*

IMPORTS OF HONEY AND BEES-WAX.

[4315.] May I draw the attention to the enclosed press cutting, which gives particulars from "manifest," of the steamship Port Morant which arrived at Bristol (Avonmouth Dock) on Tuesday, the 19th ult. This steamer, which is the first of the Messrs. Elder, Dempster & Co.'s Government subsidised line of steamships under Mr. Chamberlain's scheme for opening up the West Indies, brought over, as you may see, 28 casks, 53 packages, and 4 kegs of honey, and 7 barrels of beeswax. These steamers are due here at least once a fortnight.

Should it be worth your attention it would be interesting to me, and perhaps to others of your readers, to know your opinion of the effect of this importation on the honey and wax market, and if it is possible that it can be kept up all the year round; if so, I expect to see a great increase in the total value of imported honey, a list of which you favour your readers with monthly. The country must be very favourable to bee-keeping.—E. SKINNER, *Frampton, Cotterall, March* 26.

[We are much obliged for cutting sent, but there is, we think, nothing beyond the ordinary quantity of honey exported from the West Indies to this country. The honey from the West Indies is already included in the imports we publish monthly.—EDS.]

ANCIENT BEE-BOOKS.

"The Parliament of Bees, with their proper Characters, or a Bee-hive furnisht with twelve Honey-combes, as Pleasant as Profitable. Being an Allegoricall description of the actions of good and bad men in these our daies; by John Daye, Sometimes Student of Caius' Colledge in Cambridge." London 1641.

[4316.] From a utilitarian point of view the "Parliament of Bees" should hardly find a place in a review of ancient bee-books. But a column may well be spared to it as a warning to the practical bee-man should he come across the short title only in a bookseller's catalogue; while to the more leisurely the poetical beauty of the short extract given below will be a sufficient excuse.

John Day was a dramatic writer of whose life little is known. The dainty, whimsical "Parliament of Bees" was written about 1607, but was not published in its present form, if at all, until the date given above. It is a "masque"; one of those dramatic and poetical pageants much favoured in the days of Queen Elizabeth and her immediate successors, and it treats of "the doings, the births, the wars, and the wooings" of bees, as if they were human beings. The well-known writer, Charles Lamb, was a great admirer of this masque, "Surely," says he, "bees were never so be-rhymed before." For frontispiece is a quaint plate of bees going into parliament. The artist has ignored the third pair of legs to which bees are entitled; a mistake not uncommon in the illustrations of that date.

The opening speech of the parliamentary Speaker-bee begins as follows:—

To us who warranted by Ob'ron's love
Write ourselfe Mr. Bee, both field and grove,
Garden and Orchard, lawnes and flowrie meades,
Where th'amorous winde plaies with the golden heads
Of wanton Cowslips, Daisies in their prime,
Some loving Marigolds, the blossom'd Thyme,
The blew-veind Violets, and the damask Rose,
The statelie Lilly, mistress of all those,
Are allowd and given by Obron's free areede,
Pasture for me and all my swarmes to feed.

SOUTH DEVON ENTHUSIAST.

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Leipziger Bienenzeitung (Germany): *Foul Brood and Volatile Oils in France.*—It is curious how some things seem to be in the air and come to the public notice at the same moment. An advertisement of a firm in Nice is before me of a preparation called "Loquentine." I have just learned that a leading bee-keeper in the Palatinate speaks very highly of volatile oils in the treatment of foul brood, and a short time ago I received a well-got-up pamphlet on the therapeutic value of propolistin edited by Dr. Goldman, of Vienna. The remedy is said to possess an aromatic and antiseptic liquid, or composed of the volatile oils of several aromatic and balsamic plants. Goldman gives many instances of the value of propolistin*—distilled from the propolis of bees—on treating various diseases. Even the toughest of all spores were killed after ten hours' immersion in a six per cent. emulsion at 22 deg. C.

Old Combs, Small Bees.—Sometimes one meets with dwarfs among bees, knowing that some maintain that such dwarfs come from old comb where the larva has no room to grow to its usual size. Root has examined worker comb that had been used for twenty-five years,

* From these facts it seems evident to me that "propolistin" is a misprint for propolisin.—R. H. H.

and found that truly the comb "floor" was covered with eight to ten pupa skins, but that the sides had only two and, therefore, still plenty of space to develop. Wathelet, editor of *Rucher Belge*, confirms this opinion and praises the old combs as tough and useful in moving hives.

Le Rucher Belge (Belgium) discusses the value of the silver lime (*Tilia argent a*) for bees, as to whether or not the flowers have a narcotic influence upon them.

Several writers from different parts of Belgium, who have apiaries in the close vicinity of lime trees, agree that the only reason why the bees suffer in working on them is that they are so strongly attracted by the rich booty offered as to remain abroad until overtaken by the darkness and coolness of night, or that they are tempted out in rainy or unsuitable weather, and thus fall victims to their zeal. Under ordinary circumstances, however, the silver lime is an inexhaustible source of nectar for two or three weeks in July and August.

A contributor writes from Luxembourg :—"The honey of certain plants is at times so strongly narcotic that bees and humble bees (?) working on the flowers are killed by it on the spot. This is only an exceptional case, as it is but once in fifteen years that we have noticed the flowers of several silver limes yielding a narcotic honey."

Another contributor remembers eight or nine years ago, in passing under a beautiful avenue of the ordinary Tilia Europea in Derbyshire, noticing numbers of wasps lying on the ground beneath the trees as if stupefied but (so far as memory serves) no worker bees.

Rucher Belge (Belgium). — *Philanthus apivorus.* This insect is very common in the neighbourhood of Ghent, especially in the railway stations, where it excavates its galleries under the pavements which are exposed to the full sunlight. It is difficult to catch them as they are particularly agile. Among the *philanthus* only male and females exist, and are solitary. The females place insects or larvæ in the galleries prepared for their young, some kinds even catch spiders. They are said to sting their victims producing insensibility and not death, and thus the body is kept until the young require it.

One variety renders service to agriculture in destroying a destructive beetle; but the bee wolf does serious mischief in attacking and carrying off great numbers of hive-bees.

Queries and Replies.

[2612.] *Working "Wells" Hives.—Why do the Bees Join-up in Autumn?* A friend of mine last year bought two "Wells" hives, but towards the end of the season the bees of one compartment left their combs and joined with the other in both of the hives. 1. Can you tell me how to prevent this? I have a "Wells" hive myself that I am going to try this coming season, and I wanted to prevent the same occurrence with mine if possible. 2. I enclose cutting taken from the *Morning Leader.* Can you give any reason why the bees mentioned therein should have died; would it be a case of foul brood or dysentery? —P. O., *Lyndhurst, March* 27.

Reply.—1. The general impression seems to be that one lot of bees become queenless from some cause, and when this occurs it is natural for them to join forces with their neighbours, with whom they have worked in a super common to both. Perhaps our friend, Mr. Geo. Wells will give his views as to the frequent occurrence of similar incidents to the above. 2. The superstition referred to in the cutting sent regarding "telling the bees" when the owner dies, is a very old one, but none the less a superstition only, and certainly not founded on fact. The death of twenty stocks of bees two months after their owner, if it occurred at all (which we doubt), was certainly not owing to their not being "wakened."

[2613.] *Transferring Bees.*—As a beginner in bee-keeping I should like your advice on the following :—I have an old frame-hive with fixed floor-board, the bees of which I wish to transfer to another hive. The frames in the old hive are 10 in. deep, and the new one is made to take those of "standard" size. The combs also look old and dark. Which would be the best way to transfer? Could I cut a hole in the bottom and proceed as in the case of a straw skep, and let the bees work down, as directed in the B.B.K. "Guide Book," which I have.—William Gravell, *Hull, March* 30.

Reply.—It should be an easier task to remove the fixed floorboard than to cut a hole in it as proposed. But in any case, we should manage so that the bees could work down into the new hive, and thus transfer themselves. Since you already possess a "Guide Book" it will not be difficult to find out from it the best way of carrying out the operation mentioned.

[2614.] *Hive Robbed out in March.*—I enclose a piece of comb cut from a frame whereon the bees were clustered. I noticed "robbing" going on at this hive, and on opening it, found no more than about fifty bees and the queen. They seemed only just alive when found, and next day were all dead. The frames were bare of bees except this small piece in the middle of one comb, but there were three frames nearly full of stores at the back. I had given the bees a bottle of syrup over the cluster a week ago, as I noticed there was no food near, and fancied the syrup would

help the queen a bit. On finding the bees dead, however, I shut up the hive and now send on the comb to ask if it is foul brood. I removed the hive next day after the disaster, but in moving I found it quite full of robbers! How they got in I cannot say, but there they were!—S., *Lancaster, March* 28.

REPLY.—The small quantity of sealed larvæ in cells is "chilled brood" only, not foul, the bees having apparently died from want of food. It is very fortunate there was no disease in the combs, or your other stocks would no doubt have been affected with foul brood had it been present. Great care should always be taken to prevent robbers having access to hives of which the bees have died to guard against such mishaps as yours might have been.

[2615.] *Foul-Brood Remedies.*—1. Would a solution of naphthaline be equally as good to prevent foul brood as a solution of naphthol beta? I tried three or four chemists, but they had never heard of naphthol beta. 2. Is it usual when bees have used honey out of combs that the latter are left a dark brown colour, or is this an indication of disease?—A BEGINNER, *Derry, March* 29.

REPLY.—1. Naphthaline is of no use whatever in medicating bee-food, and naphthol beta can be had from this office at 1s. per packet, with full directions for use. 2. Combs that have contained honey only are not discoloured after removal of the latter. On the other hand the cell-walls of combs become darker in colour after brood has been reared therein, and the colour darkens still more with age owing to the successive cocoons or skins left behind by larvæ reared in the cells.

[2616.] *Suspected Combs.*—On going over my hives, the other day, I found one hive contained two or three frames with a few sealed cells, similar to the sample of comb I have sent you. When I pierced the cells they appeared to be quite empty. I can tell foul brood when it is in the coffee-coloured, pulpy mass, but I am at a loss to know why these cells are sealed over while the others are empty. Will you kindly let me know in BEE JOURNAL if there are any traces of foul brood in comb sent? Your bee papers are very instructive and helpful.—P. C., *Granton-on-Spey, March* 26.

REPLY.—There is no trace of foul brood in comb sent, but the symptoms quite justified you in sending the sample on, seeing that sealed cells, though apparently empty, often contain the spores of *Bacillus alvei.*

[2617.] *Dealing with Queenless Stocks in March.*—On examining my stocks yesterday and finding one queenless, I gave a frame of brood and eggs from another hive to enable the bees to raise a queen. I shall be much obliged if you will kindly inform me through the B.B.J. if I have done right; or is it too early in the year to do this? The stock is a fairly strong one, and I am rather loth to unite it with another. The weather here is most unpropitious with strong north-west to north-east winds. To-day nearly an inch of snow has fallen.—"DOUBTFUL," *Heswall, Cheshire, March* 26.

REPLY.—If the bees have only recently lost their queen they will probably raise another from the larvæ given, but if long queenless it is more than doubtful that any queen-cells will be started. In any case, however, a young queen, if raised, would not stand much chance of being fertilised so early in the season as when she would be taking her marital flight. In fact, drones do not usually appear on the wing in West Cheshire before mid-May, and in so backward a spring as this it will be even later. We, for preference, should utilise the bees by uniting them to a weak lot if you have one.

[2618.] *Queen Cast Out in March.*—After some ten days of bitterly cold weather, with east wind, we had a 6-inch fall of snow here on March 29. The following day was cold and dull, with snow still on the ground, and by no means a bee-day, but I noticed the bees of one of my four stocks very active at 2 o'clock. The bees seemed much excited, considerable numbers rushing in and out and running over on alighting-board, while some took flight for a time. I also noticed the enclosed bee, apparently just dead, on the ground in front of this hive. It looks to me like a young queen of a few days old. If I am right, what can it mean at this time of the year? There was also a good deal of "hum" in the hive, same as in summer. The bees were all astir, ready to run out at any point immediately I attempted to lift the cover. They were wintered on twelve frames, with plenty of natural stores, and appear to be strong. There is not much excitement this morning (April 1), but the bees seem still working actively. I will esteem your opinion on above. Is there any likelihood of the stock being queenless?—JOHN MARTIN, *Ballynahinch, co. Down, April* 1.

REPLY.—The dead bee received is a full-grown adult queen of good size, and evidently fertile. It would appear to be one of those cases of "balling" in spring, so difficult to account for or explain. If the hive had been opened or the brood-nest disturbed in any way, we should have attributed the mishap to what is called untimely manipulating, but as no mention is made of this we can only attribute the death of queen to misadventure. The stock will no doubt be queenless, and should be examined on the first warm day to see if young queens are being raised from larvæ left behind by the old one. Write us again after settling this point.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

APIS MELLIFICA (Bletchley).—*Bees Dying in March.*—Judging by comb sent, we think the bees have died of starvation. It is quite a common occurrence for death to be caused by want of food while there is plenty in the outside combs. We find no trace of foul brood.

AN OLD B.J. READER (Middlewich).—*Suspected Combs.*—The comb sent contains nothing worse than pollen. Some of the latter is mildewed—hence its white colour. The dead queen and bees sent show no sign of disease, and the queen is a fine one, but with no details sent we cannot suggest a cause of death other than from hunger.

REX (Mold).—*Soluble Phenyle.*—This can be had from Messrs. Morris, Little, & Son, Doncaster, in bottles, price 6d. and 1s.

JOHN VICARS (Cumberland).—*Size of Hives.*—In deciding on the *width* of the "W.B.C." hives you propose to build, the capabilities of your district should be considered. The inside width of 16½ in., given on page 37 of "Guide Book," refers to a hive to take ten standard frames, but it may be made to hold more if the district is suitable for a larger brood-chamber. So long as you keep the *length* from front to back (i.e., as the frames run), right to take in a standard frame with its 17 in. top-bar, the width is a matter of choice for the user of the hive.

J. PALMER (Sussex).—*Suspected Comb.*—We are sorry that your letter got mislaid. In reply, there is foul brood in comb sent, but it is only in the incipient stage. We should melt the comb down for wax, and disinfect the hive before using again.

HENRY CLARKE (Sussex).—*My First Year with Bees.*—If you can afford useful information to beginners in detailing your first year's bee-work we shall be very pleased to have particulars for publication.

CYMRO (Ruabon).—*Expert Help Wanted.*—1. Communications for Mr. T. O'Bryen, the Irish bee expert, will find him if addressed Congested Districts Board, Dublin. Mr. R. Godson, Tothill, Alford, is hon. secretary of the Lincolnshire B.K.A., and could no doubt recommend a suitable person in Lincolnshire for garden and bee-work.

*** *We again regret being compelled to hold over several articles, already in type, until next week.*

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Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOUR strong STOCKS in straw skeps; 1900 Fertile Queens, 12s. 6d. each. Guaranteed healthy. WOODS, Normandy, Guildford. E 88

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60LB. PURE EXTRACTED HONEY (first quality), in one-lb. screw-cap bottles, neatly labelled, 8s. 6d. doz. GARDINER, Junr., Daneway, Cirencester. E 86

JUST ARRIVED.—Supply of New tall 1-lb. SECTIONS (4¼ in. by 5 in.), 4-way and no-way, 100, 3s.; 3s. 9d. post free. Separators and Fences, 2d. each. F. SLADEN, Ripple Court Apiary, Dover. E 88

FOR SALE, two STOCKS of BEES in Bar-Frame Hives; Windsor extractor, new; sections, Standard and shallow frames built out, three skeps, smoker, veils, feeder, &c. A. PENNINGTON, The Rookeries, Ashton-in-Makerfield. E 84

WANTED, for Bees, Appliances, and Bee-keepers, ACCOMMODATION at abundant heather, near Eastern counties. State full particulars of railway station, roads, carting, house, outbuildings, heather. Address, HEATHER, *Bee Journal* Office. E 83

GOOD STOCKS of superior BEES for Spring delivery. JOHN WALTON, Honey Cott, Weston, Leamington.

18 SEED PACKETS of choice popular bee-flowers, with cultural directions, post free for 1s. 3d. GUTHRIE BROS., Seed Merchants, &c., Alloway, Ayr.

ON SALE, a few STOCKS of BEES in standard bar-frame hives; bees and hives in good condition. L. BAILEY, 55, Park-road, Leek, Staffs. E 46

BEES FOR SALE, five in frame-hives and four in skeps; in good order; clearing out; £6 10s. HORRELL, 4, Craig-street, Peterboro' E 75

BEES.—Twelve last year's SWARMS, plenty of Bees and Stores, 12s. 6d. each. E. LONG, Fulbourne, Cambs. E 73

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. E 70

ITALIANS, first-cross, best honey gatherers. Good tempered. Strong ten-frame stocks, with last season's Queens; guaranteed free from foul brood. £1 each. O. KNIGHT, Epney, nr. Stonehouse, Glos. E 76

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

2/2.—BEE GLOVES, 2s. 2d. per pair, post paid. Special terms for wholesale buyers. Manufactured by EDWARD REYNOLDS, Glove and Gaiter Manufacturer, Andover.

15 STRONG STOCKS Non-Swarming BEES in brood box, 25s.; or with the "Wavendon Swarm-Preventing Hive," 42s. 6d. each; securely packed. Twenty years' "Bazaar" reference. ALBERT HARRIS, Wavendon, Woburn, Sands. E 50

BODIES and BEES.—If combining the two, perhaps you would like an Incubator and Rearer. Why not make your own? A Shilling Illustrated Handbook of Construction given away. Send stamp for particulars, EDWARDS, Shrubshill Apiary, Sunningdale. E 51

Editorial, Notices, &c.

KENT AND SUSSEX B.K.A.

ANNUAL MEETING.

The twenty-second annual meeting of the above Association took place on Saturday, March 30, at the office of the BRITISH BEE JOURNAL, 17, King William-street, Strand. The chair was taken by Mr. E. D. Till, and among those present were Messrs. G. T. Giddings, M.D., J. J. Beale, H. H. Brice, W. Broughton Carr, A. J. Carter, C. J. Dow, Geo. Dow, J. M. Hooker, E. Longhurst, and H. W. Brice, hon. secretary. The report and statement of accounts were read by the hon. secretary, and showed a small increase in the deficit of last year, arising solely from the increased expenditure in connection with the expert work. The spring tours in the two counties last year cost over £42, nor did the Association receive any assistance whatever from the County Council in aid of this branch of its labour. The work carried out during the past year was considered satisfactory, but some curtailment of expenditure was considered necessary. The secretary was therefore instructed to keep expenses down as much as possible.

The experts' reports showed that in Kent 348 apiaries had been visited, 1,181 frame-hives and 184 skeps being examined. Among these 103 stocks were found suffering from foul brood, against over 200 in 1899. The reduction in affected stocks is therefore considerable. In Sussex 112 apiaries were visited, and 610 frame-hives and sixty-seven skeps examined. Of these 130 were diseased. The old grievance was reported of diseased bees being kept by non-members as a standing source of danger to healthy stocks around. Thanks were, however, due, and accorded to, several members who had allowed diseased stocks to be treated or destroyed as deemed advisable. The reports and accounts were unanimously adopted with thanks to the hon. auditor.

Mr. A. J. Baker, of Beckenham, was re-elected president. The Council for 1901 constituted as follows:—General Sir Stanley Edwardes, K.C.B., Rev. C. Alder-Stubbs, Lieut.-Colonel C. E. Reeves, Rev. G. W. Bancks, Rev. W. R. Nightingale, Mrs. R. Kynaston Cross, Messrs. W. B. Carr, J. C. Roberts, G. C. Lyon, G. T. Giddings, M.D., John Sterry, M.R.C.S., H. G. Morris, R. C. Powell, W. Smith, J.P., A. J. Carter, J. M. Hooker, E. D. Till, E. Clarke, E. Longhurst, A. D. R. Chapman, J. J. Beale, J. Castleman Brown, Eric Clarke, and H. W. Brice.

The Hon. Secretary and Treasurer were re-elected, as were also the representatives to the B.B.K.A. This concluded the general business, after which the annual drawing of prizes for cottager members took place and resulted as follows:—1st, Miss E. Andrews, Ramsgate; 2nd, E. R. Howard, Hythe; 3rd, A. J. Bootes, Orpington; 4th, T. Daniels, Burwash; 5th, C. Willie, Tunbridge Wells; 6th, E. Hoile, Willesboro'.—(*Communicated.*)

CORNWALL B.K.A.

ANNUAL MEETING.

The annual meeting of the Cornwall Bee-keepers' Association was held at the Town Hall, Truro, on March 27, Mr. W. K. Baker presiding. The report—read by the hon. secretary—was adopted, and votes of thanks accorded the retiring committee and officers, especially to Mr. Polwhele for the excellent way in which he had carried on the work of the society, and to the Mayor of Truro for the use of rooms for meetings. The officers were elected as follows:—President, the Hon. J. R. de Clare Boscawen; hon. sec. and treasurer, Mr. T. R. Polwhele; committee, Mrs. Tonn, Miss E. Williams, the Rev. A. Boscawen, Rev. J. A. Kempe, Messrs. T. W. Cowan, A. Curnow, A. H. Wenmouth, G. W. Jevons, T. B. Hender, Lowry, A. Lanyon, W. Gilson, J. Gill, W. E. T. Bolitho, J. P. Richards, J. Brown, L. G. Campbell, and W. K. Baker. The district secretaries were re-elected, with the addition of Messrs. Jolly, L. G. Campbell, and A. Lanyon.

Mr. Polwhele, in moving a vote of thanks to the County Council for their donation of £40, said they would see by the report that the members had increased and they had a good balance in the bank. It was time, therefore, that they should increase the grants to local shows from £1 to £2. They also required two new tents, one for staging honey exhibits at small shows, the other to supplement the demonstration tent, as last year they had two applications for the same day, and, of course, had to disappoint one. They also had to convey the tent from Veryan to the Lizard by night, the two shows being on alternate days. The question was how could they meet any of these requirements unless they got better treatment from the County Council. Their red-tape obliged them to keep idle £70 or more, and last year, with £66 17s. 4d. in hand, after paying a few small necessary bills he could not claim more than £50, because he had no means of paying the others, amounting to £11 4s. 4d., and on presenting these he was told there was only an available balance of £7 7s. 10d. The year before last they appointed a second expert, and he reported it to Mr. Gill, and also told him they would require £60 a year in consequence. The estimate was cut down to £40 for last year, and the same for this year. They must retrench rather than increase the expenses. Other counties were spending £100 on bee-keeping, but they who did all the clerical and financial work, printing,

&c., without cost were hampered by a paltry sum of £40 for educational purposes.

Mr. Baker agreed to ask the County Council to give a grant of £60 to the Association, and pay £40 at the commencement of the season, as that was necessary to enable the secretary to meet current expenses. It was resolved that a grant of £3 be given to the Redruth Exhibition, and Mr. Polwhele was empowered to make what grant he thought desirable to local shows.—(*Communicated.*)

A SCENT ORGAN IN THE BEE.

THE SCENT PRODUCED FORMS A MEANS OF COMMUNICATION BETWEEN THE MEMBERS OF A SWARM OR COLONY.

By F. W. L. Sladen.

Last summer I made a number of experiments with some of the burrowing species of humble-bees, keeping them in artificial nests and taking notes as to the way they behaved from day to day. One nest of *Bombus terrestris* I kept under close observation for about three months. Among several interesting things I noticed, one that struck me as being especially remarkable was that I was able to find no evidence that these bees were able to perceive ordinary sounds, but rather the reverse. The sense of smell, on the contrary, seemed to be very acute, and as humble-bees do not ordinarily emit sounds in their nests, neither can they see (the nest being in darkness underground), it seemed to me likely that they must distinguish objects and one another in the nest entirely by the senses of smell and touch, unless they possess some other sense which is unknown to us. In many of my experiments I have been surprised to notice how keen the sense of smell seems to be in these humble-bees.

I was led to turn my attention to this subject in honey-bees. Many writers on bees state positively that honey-bees can hear, but I have not yet found any certain proof of this. Cheshire, in "Bees and Bee-keeping," vol. i., pages 107 and 108, mentions the "joyful hum" and the "piping" of queens as indicating that bees can hear. I have been told by several bee-keepers that young queens, when "piping" in the hive before the issue of a swarm, have been heard to answer one another, but I have not known them to do this myself. The phenomenon of the "joyful hum" is specially interesting. In the "British Bee-keeper's Guide Book" we read, on page 26, that "the joyful hum of the bees as they enter the hive will entice others to follow." Is it only the "joyful hum" or is there something else that attracts the bees? It was in asking myself this question that I was led last summer to make certain observations and to form a theory of which the following is a summary. If in summer-time a comb be taken out of a hive and the bees on it be shaken off on to the alighting-board, several of them will gather around the mouth of the hive and stand with their heads towards the entrance "fanning" their wings and sounding a peculiar hum. A few dozen such bees have a magical effect in attracting stragglers, and the greater the number of hummers the stronger is their influence over the stragglers and the further does it extend. When humming in this way the worker-bee adopts a certain peculiar attitude. She stands with her head towards the hive-entrance or any other object to which she seems to desire to attract the attention of her comrades, and she elevates the tip of her abdomen and exposes more or less of a narrow white membrane which is situated at the base of the sixth dorsal segment (shown at A, fig. 1), and

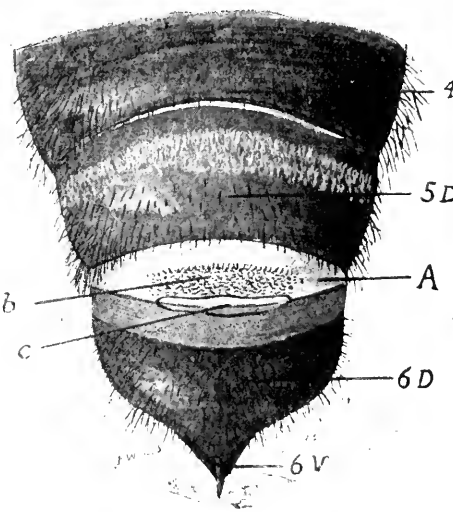


FIG. 1.

Tip of distended abdomen of worker-bee seen from above.
4 D, 5 D, 6 D.—4th, 5th, and 6th dorsal segments.
6 V.—6th ventral segment and sting.
A, b, c.—Membrane bearing Nassonoff's organ.

which when at rest lies hidden under the fifth segment. It is a noteworthy fact that the elevation of the abdomen brings this membrane specially into prominence, and it seems reasonable to suppose that the abdomen is raised specially for this purpose. It is also remarkable that when bees are "fanning" merely for the purpose of ventilation, as they do at the mouth of the hive on a very hot day, this membrane is not, or, at most, is scarcely exposed.

In the light of the above and other facts that I have observed, it suggested itself to me last July that this membrane may contain scent glands, and these, when the membrane is exposed, are stimulated to produce a certain scent which the fanning of the wings helps to distribute, and which forms an important

means of communication, by attraction, between the members of a swarm or colony.

One may frequently see a few bees standing on the alighting-board of a hive humming and protruding the above-mentioned membrane, especially during and after a general flight on a warm day in spring. If these are watched it will be noticed that they cease humming occasionally and walk a few steps nearer the entrance, where a halt again is made, and then the protrusion of the membrane and the humming are recommenced with greater force. These actions are continued alternately until the bee often only finally stops them far inside the entrance. This process is evidently not for the purpose of ventilation. It is apparently the instinctive action of any bee that has, after more or less difficulty, found the entrance of her hive, and while it is evidently an act of pleasure, it also answers the far more important purpose of indicating the position of the entrance to others outside who may be still searching for it; and thus the one or two bees that "call" may be the means of guiding into the hive hundreds of their comrades that otherwise might have perished outside. It is interesting to note that when a far larger number of their comrades are in search of the hive-entrance, as in the case of a swarm, the "calling" instinct is much more easily excited, and its effects are more marked than at other times. One instance that came under my notice when I first suspected the function of the above-mentioned membrane, last summer, struck me as being very remarkable, but probably many bee-keepers can recall similar experiences. A large and restless double "cast" was hanging near the ground in an old quick-hedge behind my apiary. The bees had "balled" two or three, if not all, of their queens, and seemed very excited. I did not know from what hives the swarms had come, so I fetched an old fertile queen I happened to have in a cage, and held the cage to the swarm. Twenty or thirty bees immediately gathered on the cage, and set up the well-known "joyful hum," protruding the before-noticed membrane to its fullest capacity. I then tied the cage, with the bees on it, up in a skep, which I placed on a large board on the ground close by, and shook a few bees on to the board. These also started humming vigorously, *every one of them*, and raising their abdomens they protruded to the utmost the membrane. I remember being struck with the fact that they did not immediately run into the skep as one would have expected; but they all *stood still*, clearly for the purpose of attracting their comrades composing the cluster. But this is not the point I wish to illustrate. As soon as the bees on the board began "calling," the whole cluster, though over a foot away, was visibly affected, and the bees began rushing together, forming "points" in various directions. One "point" was formed in the direction of the ground, and the bees at this "point" (which was nearest the board), became more excited than those at other "points." The "point" quickly extended down the tree and along the ground until it was only a few inches from the "calling" bees on the board. The bees at this "point" then began to "call" too, and presently the magnificent spectacle presented itself of a broad stream of bees pouring pell-mell in the greatest hurry and excitement down the tree, along the ground, and up the board and into the skep. Of course, there were now thousands of bees "calling" on the board around the skep. I put my nose down close over this mass of "callers," and I certainly recognised a somewhat pungent odour, which, though not unknown to me in my bee-work, I had never before smelt so strongly. It seemed to bear a faint resemblance to the odour of formic acid, made by a nest of *Formica rufa* (the large red wood-ants) when disturbed. I was unable to say for certain whether this odour was produced by the membrane in question, but I need hardly say I strongly suspected that it was.*

It is difficult to make bees "call" unless they are put near a queen or the mouth of a hive to which they belong or want to belong. This is easily illustrated. Pick up a half-chilled bee from off the ground near the entrance of its hive and place her on the alighting-board. She will crawl aimlessly about for some time, but directly she seems to find out that she is at the mouth of her home she is almost certain to stand still and "call." Except in a case like this bees seldom "call" alone. "Calling" is infectious; when one begins all those near her are inclined to take it up if they are sufficiently animated. This is well illustrated by keeping a queen with a few attendants in a cage for some time. At intervals a large number of the bees set up a hum and protrude their membranes.

Bees that were brought into my honey-house on combs, where they gathered in knots on the benches near the windows, under certain circumstances set up a "call-note" without possessing either queen or brood. The "calling" was quickly taken up by those bees that were standing close to those that commenced "calling," and those that were too far off to join in the "joyful hum" were quickly attracted by it to the spot.

(*Conclusion in our next issue.*)

* On March 13, after the above was written, while dissecting the abdomen of a bee, I perceived an odour which I at once recognised to be the same pungent odour that I had smelled last summer in hiving the swarm and in the experiment with the queen mentioned above. I immediately separated Nassonoff's membrane, with as little of the connecting tissue as possible, and placed it on a piece of card. I placed the whole of the rest of the abdomen on another card. The card with the membrane upon it gave out the odour strongly for some minutes, but the card bearing all the rest of the abdomen (the sting had been removed) produced no perceptible smell. I repeated this striking experiment with another abdomen, and the result was the same. To my mind this experiment practically proves the theory stated in the early part of this paper.—F.W.L.S.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE STING OF THE BEE.

[4317.] The parts of the sting being few are easily understood and most of them can be seen, though indistinctly, by the naked eye. They are the poison glands with the two tubes in which they are found, the poison sac, the sheath, the simple and compound levers, the lancets with a poison channel between, and the palpi or feelers. The first two require no special remark, as, like all glands, they but secrete the fluid which, in this case is the formic acid or poison of the sting. The tubes are of considerable length and lie coiled up near the chyle stomach. They combine and form one channel as they join the poison sac, which is simply a pouch or bag, acting as a storehouse for the poison. The lance, or rather pair of lances, are admirably suited to their purpose. This is the part which the insect inserts beneath the skin when it sends home its thrust in the act of stinging. Necessarily, the point is very acute. It can be seen with the naked eye as a sharp-pointed needle-like figure, and generally we find a drop of the poison exuding at or near the end. But when examined under the microscope new wonders are revealed, for we find it is really two independently acting lancelets with a hollow groove between, and the outsides of the lower part are not sloping smoothly to a point, but covered with barbs on either side somewhat resembling those on a fishhook. These assist the insect in retaining the sting in the skin until all the poison from the sac has been pumped into the wound by the aid of the muscles and levers, which have a strong and powerful projective action even after the insect is dead, or the sting has been severed from it by the retaining power of the barbs. This action can be distinctly seen going on for a considerable time after the severance has taken place. The levers are perhaps the most interesting part of the apparatus, for without their action the force of the impact would be so small that the weapon would lose much of its efficacy. It would then be capable of making only a simple thrust, the force of which would be scarcely capable of penetrating the cuticle; but the double pair of levers, acting on a central pivot, enables it to acquire a vastly accelerated speed, with a consequently increased force and power of penetration. Their action, too, opens up the space between the lances, and, acting on the muscles regulating the current of fluid poison from the sac, pumps it down the channel with considerable force, ejecting it into the wound not only at the extreme point of the sting, but at several of the barbed points.

The sheath acts both as a shield to protect the lances and as a case for retaining them in place along which they can slide out and in. At their extreme they are provided with two *feelers* to guide the insect in the selection of the best and most vulnerable spot in which to insert its weapon. This can be seen if we closely observe a bee attempting to sting rough and hairy woollen clothing, for it doubles and twirls and wriggles to find some point of vantage, and feels with the palpi before protruding the sting where it would be a case of "love's labour's lost," and when it discovers that the point of attack is unsuitable it desists, to try again in some point like the skin, when these feelers inform it that it can strike home with telling effect.

"Inoculation" is undoubtedly the best curative agent, for in course of time, when familiar grown, a stinging continues to make less and less impression on us, until with each successive season we become almost impervious as far ar any lasting effect is concerned. We have all felt the sharp stinging pain when the poison is injected into our system, and even when we are "seasoned" it causes a sharp smart momentarily as keen as at the beginning. In my own case, however, the feeling is fleeting, and in ten minutes it is almost impossible to tell where the wound had been, even when as an experiment I have allowed the bee or the sting to pump in all the contents of the sac. The best way of dealing with a sting is to rub it smartly out with the thumbnail or brush it sharply against the clothing with a downward slope. Frequently the barbs are so firmly fixed as to cause one of the lances to remain in the skin, but this causes no inconvenience. It is interesting to observe the action of the levers continue for a considerable time after the apparatus has been severed from the insect, and I have persuaded it to give me a second smarting sting about a quarter of an hour after separation.

Drones, as is well known, have no sting, and almost the same may be said of the queen, for though she has a sting and can use it, she so rarely does so, unless when attacking a rival, that we need not take it into consideration when handling queens.

When a bee leaves its sting behind it dies. Mr. Root doubts this, but the fact was well known so far back as the days of Mahomet, for in the Koran he relates that when the bee first received its sting, in its pride it prayed that its effects might cause death. "No!" came the reply, sharp and emphatic; "and since thou art so ill-disposed, it is thyself who shall die after having stung."—D. M. M., *Banff, N.B.*

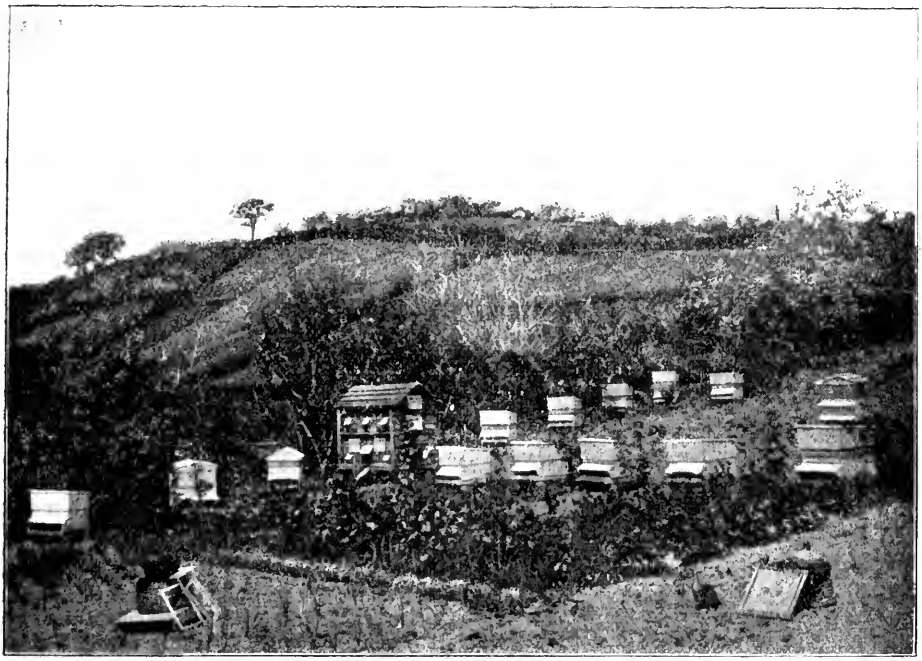
(*Correspondence continued on page* 146.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Govett, whose nicely located bee-garden appears below, is another welcome addition to the list of readers who—from boyhood—still retain their love for the honey-bee. We need add nothing to the following "notes" written at our request, which speak for themselves :—

"I first became acquainted with bee-keeping many years ago, my earliest impression being connected with 'taking-up time and the sulphur-pit. My father (who died in 1860) set great store on his bees, and considered them very remunerative, even when kept in the old straw skep ; but what would he have said if alive now, when we get five or six times as much honey from a single stock as he did from a skep ? I have no doubt he would hesitate before taking it for gospel, just as do some of our old-fashioned skeppists to-day. It is only a few years since I purchased my first two frame-hives, and at about the same time I bought a 'Guide Book,' which I have found indispensable. I then began to take the *Bee-keepers' Record* every month, and still anxious for more knowledge, I at the end of the year became a subscriber to the BRITISH BEE JOURNAL, and this, along with the help of a bee-keeping friend or two, I was soon able to find out what requirements bees needed, and assist my little workers whenever necessary. Being a joiner by trade, I make my own hives—in fact, everything in connection with bee-keeping. I prefer the hive as shown in photo, with flat zinc-covered roofs telescoped, rather than the ledges, as they keep much drier inside during the winter, which is of great importance here in the West of England, where we get more rain than cold. I scarcely ever lose a stock, and at present have seventeen hives, all containing strong stocks of bees. My apiary is located at the bottom of my garden, near a nice stream of water, and about 200 yards from where the tide flows. There are orchards, fruit-gardens, and a rare lot of white clover and sainfoin for the main honey-flow. Ours is a district of permanent pasture for the use of sheep and cattle, which greatly assists bee-keeping. My garden is a large one, where, in addition to vegetables, I grow all sorts of fruits and a great variety of flowers, as I think the 'home of the honey bee' should be surrounded by these attractions, even though it may not add very much to the store of honey. Besides being a successful exhibitor at horticultural shows, I have endeavoured to obtain a constant supply of necessaries for the household throughout the summer, and the pleasure one receives in other ways by its attractions is very great. I may also mention that I keep a lot of poultry for pleasure and profit, so that



MR. P. B. GOVETT'S APIARY, TIDEFORD, ST. GERMANS, CORNWALL.

I am never in the condition of 'having no work to do.' My success in exhibiting honey has also been most encouraging. At the London Dairy Show I have won prizes two years in succession with granulated honey, besides many first prizes at our local and county shows. These honours, however, could not be won if my bees were not located in a favoured spot, where the amber honey flows. Before closing, if I may be allowed to add a passing remark on the size of sections, I trust, if an alteration is made, it may contribute to the safety in carriage from one place to another. Perhaps a section of oblong shape would help this, and if thinner they may be better filled. I think the present section is quite large enough, as I often find them 2, 3, and even 4 oz. over the pound. This fact is certainly not an advantage to bee-keepers. No doubt others of more experience than myself will decide this question, but whatever is done may it add to the success of bee-keeping and assistance to the bees in the future."

CORRESPONDENCE.

(*Continued from page* 144)

BRITISH BEE-KEEPERS' ASSOCIATION

PRIZE FUND FOR "DAIRY SHOW."

[4318.] I have pleasure in acknowledging receipt of the following subscriptions to the fund now being raised to provide classes for honey, &c., at the Dairy Show in October next:—

British Bee-Journal	£1	0	0
T. W. Cowan	1	0	0
E. H. Young	1	0	0
R. T. Andrews..	0	10	0
Miss Eggington	0	5	0
Dr. T. S. Elliot	0	5	0
F. B. White	0	5	0
Total	£4	5	0

As stated in my communication of last week (which you were good enough to publish), a sum of about £20 is required to enable the Council of the B.B.K.A. to maintain the usual classification. The schedule must be drawn up, according to the amount at disposal, on Thursday, the 18th inst., by which date I hope to hear from all intending subscribers.

This intimation is intended as a personal appeal to every bee-keeper directly or indirectly interested in the success of the undertaking.—EDWIN H. YOUNG, 12, *Hanover Square, W.*

THE "RYMER" ADAPTING-BOARD.

[4319.] Referring to 4296 (page 115), may I be allowed to explain that the adapting-board is, as stated, "used for the prevention of brace-comb and the easy removal of surplus chambers," but not "mainly" for this purpose; its usefulness does not end here, but to declare that and to say it is absolutely necessary, would, perhaps, be saying too much, as either zinc or tin would answer for above purposes. With regard to one of its main features, however, *i.e.*, placing over the brood-frames for winter-passages, then the board is absolutely necessary to success, seeing that zinc or tin would be entirely useless for this purpose. Your correspondent mentions "the ledges round its bottom edge." This is an error; there are no ledges whatever. The board is perfectly flat. I would advise all bee-keepers trying them to get a proper board at the commencement. They are, I believe, already on the market, and I have no doubt the maker will supply them made to fit any hive to order. There is no "theory only" in the above. I have used them for eight years, and never to my knowledge have I lost a stock in winter unless the queen has died. I have had them on small nucleus hives, with young queens, and containing only two seams of bees in September. Those facts prove to me that to be successful in the future rests a great deal in the wintering problem. The value of these boards cannot be estimated until put to the test, and this is all I desire. It is attention to small matters coming under the head of management that spells success or failure.

As to my combs keeping during winter, I may say they are never empty, for if any honey is coming in after July 15, as the young brood hatches out, the cells are filled with honey. Generally speaking, the combs are more or less sealed over; those unsealed are disposed of in various ways that will suggest itself to a bee-keeper at the end of the season, and all sealed combs not required for additional stocks are put into the body boxes—three balls of naphthaline in each box of combs—then placed in a spare room, one on the top of the other and paper over the top, and a flat board on the top of this to hold all down. The room under my store-room has a fire burning daily. My combs turn out as clean in the spring as when taken from the hives. I may add that in working two or more lots of wide-frames above each other the adapting board prevents one lot from being worked into the other, which is always the case if some provision of this kind is not made.—J. RYMER, *Levisham.*

LECTURES ON BEE-KEEPING.

[4320.] Might I add a few words to the correspondence regarding the above subject. There is no doubt that lantern lectures are of great assistance in spreading a knowledge of bee-keeping; as for being unable to obtain an audience, my experience is quite the contrary. After having lectured in about a dozen different counties during the past few years I have never failed to see a good attendance. So recently as Wednesday, March 27, in the

Town Hall at Eastbourne, when I lectured at three o'clock in the afternoon, there were about 150 people present.

Mr. Davenport hits the right nail on the head when he says people—who try to lecture—without a thorough knowledge of the subject are the ones who disappoint the audience and so prevent them attending subsequent lectures if a course is being given. The mistakes made by such are quite ludicrous, judging from reports which I have seen of these lectures by the local press.

Personally, I use as many slides as possible in illustrating my lectures. In a course of six lectures I use as many as 400 slides. It saves much useless talking to do this, besides giving the audience a better idea of what you wish to convey, while the fresh slides appearing constantly on the screen keeps up their interest to the end. Indeed, I am repeatedly asked to "go on a little longer." Simple language, free from all purely technical terms, should be used, such as will enable the most illiterate listener to readily grasp the meaning.

I do not believe in using outside illustrations that have no relation to bee-keeping; there is plenty to make it interesting to all if the subject is treated thoroughly. "Moralising" in lectures, as I soon found out, is objectionable to most audiences.

One matter, often overlooked, is the great amount of interest aroused by practical demonstrations with live bees given in the spring and summer months. The bee-tent at local shows also creates a remarkable amount of genuine earnestness, as shown by the number of questions asked at the conclusion of the demonstration. These questions and answers often occupy a full hour, and I could name a large number of successful bee-keepers whose first connection with bee-craft dates from these out-door lectures by seeing how easily bees can be handled when properly subdued.

No doubt a skeleton lecture as suggested to be issued by the B.B.K.A. would be useful to those who know all about bee-keeping, as it would give headings for a lecturer to follow; this is a point which some find difficult to work out for themselves.—W. HERROD, *The Horticultural College, Swanley.*

SPRING FEEDING.

AN EXPEDITIOUS AND CHEAP SPRING FEEDER.

[4321.] After trying several of the appliances sold for "graduated feeding," and in most cases finding them wanting, I evolved the following method, which to those whose time is limited as well as their pocket will, I believe, be a boon. The materials wanted are, say, for twelve hives 2 doz. screw-cap bottles, 2 doz. pieces of $\frac{3}{8}$-in. wood (each 4 in. square), 1 doz. pieces of wire-cloth (each 3 in. square), and a few shoemakers' rivets ($\frac{3}{4}$ in.). Having these materials in hand, we may now proceed as follows:—Get a piece of cardboard 4 in. square; rule lines from corner to corner (this will give us the centre); then take one of the screw-caps, place it as near central as possible, mark round with a pencil, and cut out the circle; this will give us the "mould." Now place this on each of the pieces of wood and mark same, and then by means of a keyhole-saw or fretsaw cut out the centres. Now between each two pieces of wood place a piece of wire-cloth and fasten in position by driving four of the rivets through. Our "stages" are now complete. Now take each of the (hard) screw-caps, and punch a hole $\frac{1}{16}$ in. by means of a small punch or bradawl. Punch this from the inside, and file the ragged edge off outside. The hole may be in any position. This completes the feeder. To use the same the twelve stages may be put into position on hives, and the bottles full of syrup inverted and left. If we want to renew the supply, say the next day but one, we can fill the other dozen bottles, and going round to each hive take off the empty one and replace by a full one. It will be seen, of course, that it is not possible by this system to give a varying number of holes for access to the syrup, but of course a few caps might have any number of holes punched in them, and so used on any of the bottles. The use of wire-cloth instead of perforated zinc allows the holes to be in any position without being in the way of the bees getting the supplies. It might, however, be desirable to experiment with one cap to see how long a certain sized hole would be passing the bottleful and when this was found, to increase (or otherwise) the same to suit the rate of delivery desired.—WILL HAMPTON, *Richmond.*

AFTER THE WINTER.

[4322.] My apiary has come through the most wretched and trying winter-time for many years. I was surprised to find that there has been a large consumption of food. The mortality also has been very great, and many gallons have been removed from below the frames. At their first cleansing flight, in February, the hives were very badly "spotted," and although each hive-body was eked 2 in. above floorboard, the mildew has come out on many of the combs. We are situated 600 ft. above sea-level. On Saturday a change in the wind—58 deg. Fahr. in the shade—was the first real break-up of the cold. The bees flew freely and far after pollen. I at once set to work and removed floorboards, scraped them, and then scrubbed with boiling water and soap. What a state they were in! As I had got everything ready, it did not take long to get through twelve hives. Sunday was a splendid day for the bees. How they fetched the pollen and water in! I wonder if the water-carrying business is exclusively done by a certain number of bees in each hive? I never see any pollen carriers at my sponge-troughs. The sallows and crocuses are very late here; white arabis is not quite ready yet. The

clumps of chionodoxa I have in the garden prove to be very attractive to the bees; the blue-coloured ovary of this plant is always saturated with nectar secreted at its base.

I'm for helping "the tall section" question by a trial. As there can be no such thing as a standard density of honey, how can our friend "D. M. M." [4301] talk of light sections? —SUBURBAN BEE, *Birmingham, April 8.*

HAZEL POLLEN.

[4323.] I note that Mr. J. Hiam (on page 114) mentions that he has never seen bees working on the hazel catkin. Last year I had fourteen hives in a plantation surrounded with hazels, and was delighted to observe the quantity of catkins so near; but to my surprise and disappointment I could never find a single bee working on them. I was all the more surprised because I saw several bees at work on the blossom of the spruce fir, which yields even more pollen than the hazel, though not so likely to suit the bees.

Can any reader who has experience give us the reason why such a harvest should be left ungathered at a time of the year when there is little else for the bees to gather from?—T. HOOD, *Pickering.*

[4324.] I have been much interested in the discussion regarding the bees working the catkins of the hazel. As a bee-keeper of twenty years or more, I have never yet seen a single bee work on them, and being generally observant as to what flowers bees visit, I think I should have seen them had such been the case. Again, the hazel generally blooms in mid-winter, when bees are, as a rule, quiet in their hives. The hazel is also what is termed a "wind fertilised" flower; hence there is no need for it to be visited by insects. Surely Mr. Salmon (4310) is thinking of the wych hazel, and not the common hazel-nut, which latter belongs to the N.O. *Corylaceæ*, and is, I think, the one under discussion.—ELVEY E. SMITH, *Southfleet, Kent.*

Queries and Replies.

[2619.] *The Nature of Foul Brood Germs.* —Will you kindly tell me if a hive that has been occupied by a diseased stock of bees still retains infection after being put away for two years? I mean, does the germ still live? I have kept bees now for twelve years and would be sorry to have to part with them. I have, however, been troubled with foul brood among my bees for the last two years; but I trust I have got rid of it now as I have destroyed all the affected stocks and bought some colonies of the good old Guernsey strain of bees. I may say that the disease was introduced among my bees through some stocks purchased from England. On examining them after arrival I thought they seemed not quite healthy, but having had no experience of foul brood I could not be certain till it began to spread. Five years ago this disease was unknown in the island, at least as far as I was able to ascertain, but now it seems as bad as anywhere else. I shall be very much obliged if you will answer me respecting the germ in a hive, through the BEE JOURNAL, as I am anxious to keep the bees free this year and do not care to trust to disinfectants. I lectured at our lecture hall this winter on "Bees as Profitable Pets," and I am glad to say the local papers reported the lecture as a great success.—E. M. ROBIN, *Guernsey.*

REPLY.—Any one aspiring to the position of a lecturer on bees should make himself thoroughly acquainted with the nature of foul brood germs by studying the chapter on foul brood in the "Guide Book" if a copy is available. If not, you might refer to a special article on the subject in the BEE JOURNAL of June 1, 1899 (page 209). For the rest, we may say the spore of foul brood will retain its vitality for many years, and it is difficult to eradicate from a hive by any process short of burning. You may take it from us that bees in Guernsey have been more or less troubled with this bee-pest just as in other places where it was supposed to be non-existent.

[2620.] *Transferring Bees in October.—Hive robbed out in Spring.*—In July last year a swarm of bees took possession of an empty barrel in my garden. I transferred them to a new frame-hive in October, and they had five frames filled with food sealed over in December. In the middle of last month I gave them a cake of soft candy, and noticed shortly afterwards that the bees were very excited, a good deal of fighting going on, many bees being killed. Yesterday (April 5) being a warm day I examined the hive and found two small clusters of bees (one of which contained the queen) all dead, another, a small cluster, also dead. All the honey was gone, and only about half-a-dozen live bees left. I send you some of the comb—the mildewed piece was on the frames underneath the candy. Are the dead bees in the cells young or old? I will be glad of any information that will explain the mishap.—E. A. H., *Goole.*

REPLY.—The real explanation of the "mishap" is the fact of October being too late in the year for transferring bees. It should be done at end of August or early in September, so that the bees have time to prepare their new quarters for safe wintering in. Not only so, but if they have time to rear some brood in the new "home" it attaches the bees to it, and prompts them to defend it vigorously if robber-bees make an attack. In your case it would seem as if giving food in March has started "robbing," and the transferred bees have

allowed themselves to be overcome by the marauders, which latter evidently carried off all the food in the hive. The position of the dead bees (head foremost in the cells) is a sure sign of death from starvation.

[2621.] *Feeding Bees in Skep.*—About July last year I purchased a stock of bees from a distance. The bees arrived in a straw skep, and were placed above the frames inside a frame-hive, the roof being raised by lifts and so increased in height to take in the straw skep. This was done with the intention of transferring them later, but the person who was to come and drive the bees down for me and fix them up properly for the winter unfortunately did not turn up; so, as I knew nothing whatever about bees, I had to let them remain as they came, hoping to get the promised help some time. I quite expected that the winter would kill the bees, but I find that they were out a few days ago, thus proving that they are alive. They have had no feeding through the winter, and I fear they had not had time to collect much food after arrival, but I understand that there was some honey in the skep. I should therefore be glad if you will tell me how to deal with them. 1. In feeding, should I cut a hole through top of skep and put on a feeding bottle? 2. If so, what sort of bottle feeder should I use? I know nothing of bees, and should therefore esteem it a favour if you will put me on the right track in dealing with them.—EDMUND BUTLER, *Sutton Coldfield.*

REPLY.—1. Yes; cut a hole large enough to take in the neck of feeding-jar, and allow the projecting shoulder to rest on the straw of skep. 2. A common glass jam-jar, holding about a pint, with a neck 1 in. long, makes a good feeder. In using, fill the jar with syrup and cover with muslin tightly stretched in tying on. Invert the feeder quickly to prevent the syrup escaping, and, after setting it in feed-hole, wrap the junction well with a roll of paper or rag to keep the feeder upright and prevent loss of warmth from the skep.

[2622.] *Spreading Brood-combs to Prevent Swarming.*—1. When should frames with foundation be inserted into the body-box of hive, the object being to give queen more room for laying eggs, and help to prevent swarming? 2. What variety of bee would you recommend for handsome appearance, apart from other qualities?—H. J. ANDERSON, *Coventry, April 2.*

REPLY.—1. Defer giving frames of foundation for the purpose named till weather is favourable and there are about five good seams of bees in brood-chamber. When these conditions are reached, insert one frame right in centre of the brood-nest. A week later, if weather keeps warm, a second sheet of foundation may be inserted next to the first one, and so on till the required room for brood is supplied. 2. The handsomest bee we know of is the pure Cyprian.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. B. PEACOCK (Darlington).—*An Amateur's Difficulties.*—With bees located two miles away and only a chance of seeing them once a week, the difficulty of managing hives well is, no doubt, much increased and needs extra precautions to prevent loss of swarms, &c. You should take special care, too, in leaving the bees an abundance of stores for winter and early spring. For the rest, we reply:—1. The comb sent contains only mildewed pollen, there being no trace of brood in cells. 2. The acorn-shaped cup on comb is an embryo queen-cell. 3. We prefer frames hanging at right angles to entrance. 4. Poppies are much visited by bees in some seasons. The honey from them is very poor in quality. 5. We have not much faith in the "long-tongued bee" theory prominent just now.

R. MORGAN (Cowbridge).—*Bees Dying in Early Spring.*—So far as we can judge, the hive must let in rain, the dead bees sent being saturated with moisture. The comb is quite healthy, with no trace of brood in cells or any indication of disease.

W. HUTCHINSON (Banbridge).—*Making the "W.B.C." Hive.*—The article in *Work* you were good enough to send purports to be copied from our monthly, the *Bee-keepers' Record*, and as such should be correct. The sketches of the various parts of the hive shown are, however, very rough and far less like the originals than the outline sketches seen in the catalogues of many dealers. For accuracy of description the plan and drawings to scale printed in B.B.J. is a long way better than what appears in *Work.*

A. T. H. (Ealing).—*Carbolic Acid Solution.*—1. We have never had any difficulty in getting Calvert's No. 5 carbolic acid to mix with water when the latter is made fairly hot. Try again. 2. The Surrey Bee-keepers' Association will, we believe, be holding an exhibition and demonstration with live bees and lectures in the bee-tent at the Crystal Palace this season. You would there be able to see how bees can be handled, and learn of the methods of management, as desired. 3. The nearest apiary to Ealing we know of is that of Messrs. Abbott Bros., at Southall, W.

E. R. C. (Newton Abbot).—*Using Last Season's Sections.* — Beyond granulation,

which has probably taken place, the honey in sections will be quite fit for table use Such of the sections as contain only a little sealed honey may be used as "baits" for coaxing the bees into section-racks this season.

B. A. MANGLES (Easingwold). — *Suspected Combs.*—The two full standard frames of comb sent were clean and healthy looking, no single cell being capped over or containing a trace of brood. A few cells contain pollen, but the combs are entirely foodless. If the rest of combs are same as samples, the bees will probably have died for want of food.

A BEGINNER (Ealing, W.).—*Syrup Making.*—The sample sent is too thin for bee-food, nor is its flavour right. We will be glad to know what recipe was followed in making, and the kind of sugar used, with proportion of water, &c. When you briefly ask us to "let you know on the quality of the sample," an equally brief reply would be "poor, and not properly made"; but if the particulars asked for above are sent we might guide you in any future syrup-making for bee-food.

W. ANDERSON (Ilford).—*A Magician Among Bees.*—We have read with somewhat amused interest your account of the wonderful performances in the bee line of the gentleman "who owns a bee-farm near Swaffham." You must, however, pardon us for declining to "swallow" such statements with regard to swarm preventing as "Oh, yes, it's quite possible; it takes me about ten minutes to stop 100 stocks from swarming!" The same may be said of his other still more marvellous "tricks"—to use your own term—with bees. If you will be good enough to let us know the name and address of the "magician" you write of, we will endeavour to learn more of his extraordinary abilities from some bee-keeper in the neighbourhood.

"DUMMY BOARD" (Kent).—*Making a "Wells" Hive.*—Mr. Wells has published a pamphlet giving all the particulars you ask for, price 6d., which may be had from his address:—Eccles, Aylesford, Kent.

R. WILSON (Tullibody, N.B.).—*Bait Sections.*—A few partly filled sections are very useful as "baits" for inducing bees to take possession of section-racks at times when they would otherwise not enter them.

T. W. T. (Lydbrook).—*Suspected Combs.*—1. Although the bees may have died from want of food there are unmistakable traces of foul brood in a few of the cells. Although the position of the dead bees (head foremost in the cells) points to death from famine, the stock was not worth preserving.

W. P. REW (N. Devon).—*Suspected Comb.*—There is no trace of brood in comb sent, the cells of which contain nothing but pollen. Some of the latter is mildewed, but nothing worse.

T. M. L. (Sheffield).—*Nottingham as a Bee District.*—Before moving to the lace county we recommend you to write to the Hon. Sec., who would no doubt advise you on the several questions asked better than we can ourselves. Address: Mr. Geo. Hayes, Mona-street, Beeston, Notts.

F. J. (Mountmellick).—*Painting Insides of Hives.*—1. New hives should be painted outside only. For disinfecting purposes, however, a couple of coats of paint inside body-boxes is very advantageous. 2. *Managing Sections and Wiring Foundation.* The wire sent is altogether too thick for the purpose. But with regard to managing sections and wiring foundation, indeed, bee work in general, it would be real economy for you to invest in a "Guide Book," which contains full instructions on all the points named, along with information indispensable for success in bee-keeping. 3. "Weed" foundation is without doubt superior to that made on an ordinary machine.

E. T. WEBB (Tottenham).—After perusal of advertisement referred to along with letters sent by yourself, we fail to see anything misleading in the terms stated. The book is "given away" on certain "conditions," particulars of which seem to have been duly forwarded by post at your request.

A CORRESPONDENT resident in Tottenham writes:—"I would be glad if you could give me the address of a gentleman in Tottenham from whom I might ask information about bee-keeping." Perhaps some reader located in that neighbourhood is willing to render the desired help. If so, will he kindly send on his address.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 56 lb. HONEY in 28 lb. tins, rather dark, 4d. lb. GEORGE THOMPSON, Helpringham, Heckington. E 98

HONEY EXTRACTOR (Raynor) FOR SALE, with gearing nearly new, 22s.; or exchange. COTTERILL, 31, Pemdevon-road, Croydon. E 97

FOUR strong STOCKS in straw skeps; 1900 Fertile Queens, 12s. 6d. each. Guaranteed healthy. WOODS, Normandy, Guildford. E 88

FOR SALE, 48 lb. finest EXTRACTED CLOVER HONEY, 6d. per pound, sample 2d. tin free. T. HODGINS, Dangan, Roscrea, Tipperary, Ireland. E 95

STOCKS of BEES FOR SALE in standard frame hives. Apply, Mrs. ALLEN, Stocklinch Manor, Ilminster. E 93

GREAT BARGAINS.—Four strong STOCKS of BEES in new, painted hives, cover 10 standard frames, £1 each. THOMPSON, Apiary House, Gowdall, Snaith, Yorks. E 99

EIGHT good, healthy, strong STOCKS of BEES in skeps. Good condition. Packages free on rail. Price, 10s. per skep. Further particulars apply, R. BROWN, Flora Apiary, Somersham, Hunts. E 90

BLACK MINORCA EGGS (Webster's & Pitt's Strains). Also Indian Game (Cook's Strain). Either, 3s. 6d. per sitting. H. WISBEY, Whittlesford Mill, Cambs. E 92

Editorial, Notices, &c.

IRISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The annual general meeting of the Irish Bee-keepers' Association was held on the 11th inst. in Dr. Traill's rooms, Trinity College, J. M. Gillies, Esq., in the chair; also present H. Chenevix, Esq., J.P., Vice-President; W. J. Delap, Esq., J.P.; Messrs. F. Beamish, T. B. O'Bryen, W. N. White, and M. H. Read, Hon. Secretary.

The minutes of the last annual general meeting having been read and signed, the report and balance-sheet for 1900 were received and adopted, with a vote of thanks to the Auditors.

A vote of thanks was also accorded to Dr. Traill for the gratuitous use of his rooms for Committee and other meetings.

The outgoing President, Vice-Presidents, Auditors, Treasurer, and Secretary were re-elected unanimously.

A unanimous vote of thanks was passed to the Baroness-Burdett Coutts for her interest in and promised donation to the Association.

It was resolved that the Committee be empowered to appoint as a correspondence committee two members of the Committee, in addition to the Secretary, with whom the Secretary may consult by post on any urgent matter—its powers to be defined by the Committee.

The scrutiny of the voting papers was then proceeded with and resulted in the following candidates being declared elected:—Messrs. Jas. M. Abbott, T. B. O'Bryen, G. Watson, W. J. Delap, Rev. J. G. Digges, J. M. Gillies, E. B. Drought, Rev. P. Kavanagh, C.C., Rev. W. Kane, M. J. Doherty, W. A. Clandillon, J. P. Offlahertie, J.P., Major J. K. Millner, and J. A. Aiken. Ex-officio members: Lord Ardilaun, President; Vice-Presidents, H. Chenevix, J.P., Dr. Traill, the Earl of Rosse, Rev. Canon Procter, Hon. R. Bellew, Miss Rutherfoord, W. J. Bramley; Hon. Treasurer and Secretary, M. H. Read.

NORTH NORFOLK B.K.A.

ANNUAL MEETING.

The annual meeting of the above Association was held at the Reading Room, Briston, on March 18. Mr. H. W. Woolsey was voted to the chair in the unavoidable absence of the Rev. W. H. Marcon, Chairman. Lady Hastings was unanimously invited to again act as President. Mr. Justice Cozens-Hardy and Sir W. Brampton Gurdon, M.P., were also elected as Vice-Presidents, and the Rev. C. Q. Knowles and Mr. C. J. Cooke as Treasurer and Secretary respectively. The Committee was reappointed *en bloc*. Mr. C. J. Cooke was prevailed on to continue in the capacity of principal adviser and expert, with three members (Messrs. H. Powell, J. Plattin, and S. Fisher) now duly qualified as experts, as his deputies.

The Hon. Secretary, in presenting the seventh annual report, gave a brief epitome of the work done in the past year, including a reference to the annual show at Melton Park on August 6.

Mr. Cooke also presented his report as expert for the Association, and alluded to the excellent way in which the bees of members were managed.

The report and balance-sheet were adopted, the latter showing that the adverse balance of the year had been cleared off, but there still remains an adverse balance of £3 11s. 7½d. in connection with the purchase of the bee-tent, which the Committee hope will be paid up during the year.—(*Communicated.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of March, 1901, was £4 547.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

A SCENT ORGAN IN THE BEE.

THE SCENT PRODUCED FORMS A MEANS OF COMMUNICATION BETWEEN THE MEMBERS OF A SWARM OR COLONY.

By F. W. L. Sladen.

(*Concluded from page* 143.)

As I thought it probable that communication of the kind I have been noticing was carried on chiefly (if not entirely) by scent, and not so much by sound, I tried to prove this by placing a strongly scented canvas screen across a line of "calling" bees which were standing on the extended alighting-board of their hive, so as to cut off communication by scent, but not by sound, between the party close round the mouth of the hive and that at a further distance. Scents such as rose-water produced very little effect. The smallest trace of creosote produced a marked effect, but I think that bees have an aversion to the smell of this substance, as they are known to have for a similar smelling substance—carbolic acid. On the whole this experiment, which was repeated in various ways, produced no definite result one way or the other.*

The following experiment, which I quote from my notes, may be interesting:—

"July 30, 1900. 5.30 p.m. I put a fertile

* A few days later I was fumigating with burning brimstone some wet combs to destroy some larvæ of the wax-moth that had got into them, and I was surprised to find that robber-bees could smell the honey quite well through the dense sulphur fumes. No wonder the above experiment was not successful.

queen from one of my nuclei into a wire-cloth cage with twelve workers.

"6.30. I went to the cage and shook it. All the workers hummed and protruded membrane. A very sweet odour was noticeable, coupled with "seaweed odour"—sweet odour more noticeable.

"10.30. When quiet I fed the bees with a drop or two of syrup, and opened cage. Four or five bees were standing round queen with membranes exposed, wings standing out ; some vibrating feebly almost without sound. Some bees got out.

"10.45. One bee dropped on to the floor, and ran about as if searching for something. I held cage, with queen and workers in it, near her. She did not notice the cage for a long time. The bees in the cage hummed occasionally. This did not perceptibly attract her more. After five minutes' searching, when the bees were quite silent, she discovered her proximity to them. She was then fully 1½ in. off. She exposed her membrane, elevated her abdomen, and hummed. Other bees did not follow suit. She continued humming for about ten minutes, gradually working nearer till she reached cage, then she ran over it and tried to get in."

The membrane in question appears to have been first noticed so long ago as the year 1883, when Nassonoff, a naturalist of Moscow, described the organ, and an account of his description was sent by Zoubareff to the Swiss *Bulletin d'Apiculture* (translated by Mr. Frank Benton in the BRITISH BEE JOURNAL of Dec. 15, 1883).

The organ is described as a canal. "At the bottom of this canal a large number of small glands open, each one of which has an oval cell with a well-defined globule. From each cell a fine duct starts out and extends to the bottom of the canal." Nassonoff further says that the walls of the ducts are of a chitinous texture. He assigns a secretory function to the glands, suggesting that they produce the perspiration. Zoubareff, while not absolutely rejecting Nassonoff's theory, connects the existence of the glands with the little drops of liquid that bees were said to let fall when they are on the wing, which, he says, represent the excess of moisture which nectar, freshly gathered from flowers, contains over ripened honey, and which, he thinks, is collected and thrown off by these glands. These ideas seem very crude, and would hardly be believed at the present time, but they are copied in the present edition of Cowan's "Honey-Bee," which seems to indicate that the organ in question has not been further investigated since 1883.

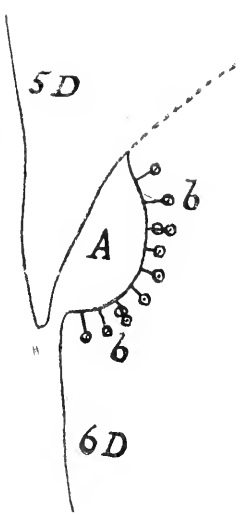


FIG. 2.

Nassonoff's organ as figured by Zoubareff in 1883. Lettering same as in fig. 1.

I have constructed a special stage to my microscope which holds a bee's abdomen in a distended condition, enabling me to examine the surface of this organ under a high power. It then has the appearance of being paved with a mosaic of minute semi-transparent vesicles (*b*, fig. 1). At the outer margin of the vesicular area is a long hollowed-out depression (*c*).

From the above notes it seems clear that the organ under consideration is connected very closely with the means that bees have of attracting one another. There is strong evidence in favour of its being a secretory organ. This being the case, it seems but natural to suppose that it produces some kind of scent by which bees are attracted to one another. This theory is strengthened by the fact that we know that bees are greatly influenced by scents some of which we can hardly perceive. They can smell honey and syrup far better than we can. There can be no doubt that the antennæ are the principal organs of smell in insects generally. Lefebvre so far back as 1838 made experiments on bees which seemed to assign the organs of smell to certain pits in the antennæ, and this is the theory now generally held. On the other hand, no certain organs of hearing have been found in bees. Sir John Lubbock (now Lord Avebury) says in "Ants, Bees, and Wasps" (page 290): "The result of my experiments on the hearing of bees has surprised me very much. It is generally considered that to a certain extent the emotions of bees are expressed by the sounds they make, which seems to imply that they possess the power of hearing. I do not by any means intend to deny that this is the case. Nevertheless, I never found them take any notice of any noise which I made even when it was close to them." Lord Avebury goes on to say that he tried his bees with a violin, dog-whistle, tuning-fork extending over three octaves, shouting, &c., all to no purpose. Lord Avebury was, on the contrary, very successful with his experiments testing the sense of sight and smell in bees. Forel, an eminent authority on ants, denies that these insects can hear. My experiments with bumble-bees have indicated a similar conclusion in their case. While the evidence regarding the absence of the sense of hearing in bees is entirely negative in character, one must not declare positively that they cannot hear ; and they are, at any rate, extremely sensitive to certain forms of vibration. It is possible that the membrane we have been

considering might in some way act as a modulator of sounds produced in another part of the body, or even produce certain sounds itself while exhaling scent as well. Such sounds might be inaudible to the human ear (*vide infra*). Sound-producing organs situated on or between the abdominal segments are by no means unknown among other hymenoptera. In the male of *Mutilla rufipes* a metallic chirping sound is produced as the abdomen contracts and expands, caused by the segments rubbing over finely ribbed surfaces on one another. This insect is closely allied to the ants. Though the ants are not known to produce audible sounds in this way, yet certain of them have a similar structure to the *Mutilla*, which Lord Avebury thinks it "not unreasonable to conclude may produce sounds even though we cannot hear them." He figures a section of the junction of the second and third abdominal segments in the worker of *Lasius flavus* (the common yellow ant), the outline of which is not unlike that of the organ under consideration. It is, however, chitinous and finely ribbed, and occurs between all the segments of the abdomen ("Ants, Bees, and Wasps," page 230).

Turning now to undoubted scent-producing organs in the abdomens of insects, we find that they are commonly developed, and for a variety of purposes. The scents may be divided into two classes: those that are intended to allure and those that are intended to repel. Certain sphingids exhale a distinct odour, which was traced by Fritz Müller to a tuft of hair-like scales at the base of the abdomen, which fits into a groove in the first segment, and is ordinarily invisible. Peculiar white threads are thrust out of the narrow openings near the tip of the abdomen of certain moths. Smith found a peculiar brush of hair-like scales in a groove between the dorsal and ventral parts of the basal two segments of the abdomen of *Schinia marginata*, a moth belonging to the family Noctuæ. H. Garman found in a species of locust (*Hadenœcus subterraneus*) "a pair of white fleshy appendages protruding from slits between the terga of the ninth and tenth abdominal somites, the nature of which was not clear," but they were thought to be scent glands.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4325.] The weather has not improved since my "Notes" three weeks ago, though the days are longer and the snowstorms have changed into rainstorms—not "April showers," but veritable downpours, which prevent farmers from tilling the fields, except on light sandy soils; gardeners also are, perforce, all behind with their work; while in the apiary bees are idle from want of forage and suitable weather in which to work. We have been feeding the bees a little to compensate in a measure for the inclement weather. The only satisfaction one finds in the continued wet is the hope of a good crop of clover later on. All the usual early bloom is still behindhand—even the horse-chestnut trees have not yet unfolded a bract from the swelling buds; indeed, the only indication of spring is the green leaves on the gooseberry bushes, the bloom on the white-rock (*Arabis alpinus*), and the green sheen on the sward. To-day (April 15) has been finer, and the bees busy between the showers. In my last "Note" on hazel pollen I wrote: "Bees do not visit the catkins of the hazel to gather the pollen." The word "catkin" is wrongly printed "flowers." After watching closely year after year I have never see a bee attempting to collect pollen from the hazel catkin, though within a stone's throw of my home apiary there is a long row of hazelwood; the boughs have been loaded with catkins, and no other natural source of pollen obtainable. I therefore think friend Loveday must be mistaken on this point.

The section controversy being closed for the present, suppose we start a discussion on the best method of bringing stocks up to the "pink of perfection?" Seeing that the bee-keeper's best hopes with regard to this line lie in the output and the finish of his produce rather than in the shape of the receptacle in which comb-honey is stored. Our season is generally so short in duration that I say first of all study the forage of your district; keep an eye, keen as a lynx, on the capabilities of your surroundings; then endeavour for all you are worth to get every stock into the right condition to take advantage of the honey-flow. If sainfoin and clover is your first crop do not worry the bees and yourself by stimulating to get your hives teeming with bees a fortnight before there is a clover bud io be seen in the fields. By so doing the colony is past the meridian of its strength, or has got the swarming-fever before honey is coming in. Then follow annoyance and loss of time, and possibly a lost season, or at least the early part of it.

Another item of importance to the would-be bee-man is the ordering of swarms. Nearly all, of course, want early swarms; but the district in which the bees are to be located should decide the purchaser as to the best time in which to hive his new swarm in order to secure the best results. An early-May swarm started in a late clover district is not likely to do great things that season, for by the time the honey-flow is on the swarm will be reduced considerably in numbers, and before it is able to "build up" again in young bees

ready for field work the season will be practically over. The safest plan to secure the best results, in my opinion, is to have the swarm started to work as near as may be to the date when the main honey-flow begins. If you cannot fix the date ask some neighbouring bee-keeper, or judge for yourself by the clover bloom around you. Then, having hived your swarm, give the bees a bottle of syrup (warmly wrapped) nightly for three or four nights; this warms them up, assists the secretion of wax, and the hive is ready for supering earlier by some days than if left unfed.

"*Wells*" *Hives.*—With regard to Mr. Horn's mention of this matter on page 136, I beg to say that I was not referring to his report *re* "Wells" hives, but as a reminder that one "Wells" hive contains two colonies of bees, and that I consider a fair comparison is between one "Wells" hive and two single hives. The facts of any system cannot be decided except by careful comparisons for several years, as the general bee-keeper who pays little attention to his bees occasionally has some stocks that far outvie any others in the apiary. The said stocks are most likely in the "pink of condition," ready to take advantage of the honey-flow, while the others may be a fortnight too forward or a week "behind the fair," which would make a very considerable difference in the "take."

Imports of Honey and Wax.—Anent Mr. E. Skinner's letter on imports from the West Indies (page 137), I notice also in the *Melbourne Leader* (Australia) that our London merchants and grocers are accused of re-christening Australian butter into "best Dorset," and Australian honey (which fetches wholesale 3d. to 3½d. per lb.) into "genuine Narbonne," at 1s. per lb. retail. The *Leader* goes on to say:—"If a buyer asks for Australian honey he is assured that no one can touch such an article on account of the disagreeable flavour of eucalyptus. . . . It is proposed to open a store in the city where Australian honey, than which there is no better in the world, will be sold as such, and at 6d. per lb. pot."

Spring Feeding.—Mr. Hampton's method of feeding (4221, page 147) is similar to my own, except that my bottles are the tie-over jars, and the "feeders" pieces of zinc, with the outside edges turned down on two sides, so that the lip of the jar fits in tight; then I punch as many holes as I wish—three, five, ten, or twenty—and insert over a piece of board in which a 2-in. circular hole is made with a centre-bit. When removing the empty jar I slide a piece of glass over the hole as the feeder is slipped off, and no bees escape; or a full jar takes the place of the empty without using the glass.

Bait Sections.—With regard to these, any partly-filled sections given should be uncapped. Never mind if the honey is solid—the bees will attend to that; and notwithstanding what theorists may say about a crystal in the comb starting crystallisation of the new honey, practice and careful attention will prove it a fallacy, as I have proved many times in consecutive years myself.—W. WOODLEY, *Beedon, Newbury.*

"WELLS" HIVES.

WHY BEES UNITE OF THEMSELVES IN AUTUMN.

[4326.] In reply to your request on page 138, I beg to say, regarding "Bees joining up in autumn," or at any other time, there are many conditions within a "Wells" hive which may tend to bring this about. I enumerate below a few of these conditions:—(1) A badly fitting perforated dummy, or other means by which the two queens have been enabled to come into contact. This could easily happen through carelessness when packing for winter, such as allowing either queen to slip over the top of the division board while the quilts were off both compartments. (2) The contingencies that all queens are subject to, either in double or single stocks. (3) One of the queens being, for some reason, much inferior to the other. (4) Allowing too much room for the number of bees which the hive contains. (5) Not being properly packed for winter, and thus allowing the hive to become cold, and perhaps draughty. When this occurs the bees will be sure to join forces for mutual warmth. (6) The combs of one compartment being much better stored with natural food than the other, or by one lot of bees being fed with inferior syrup.

In my own practice I carefully guard against all the above causes, and in consequence seldom have a case like the one complained of. I would also strongly advise all who adopt my system of bee-keeping to try and keep both compartments in as nearly even condition as possible in every respect. By so doing they will have little trouble in the shape of bees joining forces of their own accord. It is well known to bee-keepers of experience that every queen-bee is liable to accident or mishap, whether in single or double hives; but if the bees dwindle away in a single hive before their owner realises that the colony has lost its queen, the stock may be ruined and the bees lost. On the contrary, when anything of the kind happens to the queen in a double hive, the bees will, at the very first opportunity, join that compartment which retains the queen as soon as ever there is room for them to crowd themselves into the adjoining compartment; and when there is not room for all, the overflow will pack themselves as tightly as possible on to the combs nearest the division-board; thus ensuring mutual warmth, and not only saving their own lives, but making one very strong stock for their owner's benefit without any trouble or expense. When

such a case as I have mentioned occurs in the spring and the bees are neglected for any length of time, they will store honey in the queenless compartment instead of swarming.

In conclusion, I hope our Editors will allow me to say a word directly regarding myself. Some of your readers who correspond with me appear to think that I have some kind of business connection with the BEE JOURNAL; others, again, seem to regard me as a bee-appliance manufacturer or a dealer in bees and bee-goods. For the information, therefore, of all it will be well to make it clear that I have nothing whatever to do with anything of the kind suggested, either direct or indirect. My source of livelihood is entirely apart from bees, and I only keep a few stocks (all double-queened ones) as a pleasant and profitable "hobby," with which I have every reason to be more than satisfied both as regards the pleasure and the profit.—GEORGE WELLS, *Eccles, Aylesford, Kent.*

BEES IN NORTHANTS.

[4327.] Though only a poor hand at writing, I send you a few lines to say my bees are all alive and working hard, when a chance offers, on the few flowers about. These comprise snowdrops and crocus, while I have a large bed of white-rock (*Arabis alpinus*) as full of bloom as I ever saw it. For nearly a month past it has been flowering plentifully, and promises to do so for month to come. The bees are very busy on it, as they are on the blossom of the box, which latter is in full bloom with us. I have eleven ordinary frame-hives and two "Wells" hives, besides eleven stocks in skeps. With regard to my "Wells" hives, I am like the bee-friend who wrote about them in B.B.J. of April 4 (2612, page 138). Like him, I cannot understand why the bees of both compartments so often join up, leaving one part of the double hive tenantless. One lot did this in the winter of 1900, and another has this year followed suit.

All my frame-hives have plenty of food at date of writing, and there are plenty of bees in most of them; but the skeps are short of stores, and I have had to keep them going with soft candy for some time past. Some of the skeps are very weak. The season of 1900 was the worst I have experienced since the memorable one of 1888. My whole "take" was not much over 150 lb. of extracted honey, and no sections. But, bad as this is, I can hear of many bee-men in my district who have done far worse than myself. One man, a gardener, owning about a dozen hives, has lost them all through not feeding last autumn. Many others have had losses from the same cause. My own regular plan is to leave the bees plenty of their own stores, not taking all away, as some do, and giving nothing in return. I also think we should provide the bees with a few flowers to suck at, and of these there is none, I think, that equals the white rock, for I often find the bees so numerous that I could not count how many were at work on a square yard of it in bloom. It is also so easy to increase one's stock of the plant by dividing the roots and letting it spread of itself.

I often think we bee-keepers owe you much for the kind "hints" given in B.J., so different to the time when I owned my first skep. I was twelve years old then, and am sixty-eight now. We never thought of anything beyond the brimstone pit in my early days; nor did we ever forget to "Tell the bees" when a relative died. I had strict instructions once to go to each hive and tap until the bees came out, when I told them my uncle had died the day before. I often now smile at the simple way in which I believed in this old notion.—GEO. BREALEY, *Orendon, Northants.*

LATE POLLEN GATHERING.

[4328.] I saw the bees of my hives bringing in pollen freely on December 16 last. This is the latest date on which I have ever known them to do so after over twenty years careful observation. My previous "record" for late pollen gathering was November 5, more than five weeks earlier. At the time first named we had, a quarter of a mile from my home apiary, some mustard in bloom which the frost had not destroyed, and this was evidently the source from whence the pollen came. The same stock I noticed commenced taking in pollen for the new century on February 28. So far as I have been able to ascertain bees in this district are about a month behind this spring, owing, no doubt, to the unfavourable weather and the consequent dearth of flowers. Nor has there been either pollen or anything to entice the bees or ourselves into the open air outside. On the other hand, bee-keepers of some year's experience know that good stocks with prolific queens at their head, and which have wintered well, come on with a rush when once they wake up to the fact that spring is fairly here; at such a time six weeks makes a tremendous improvement. I hope all bee-keepers will be ready for the change when it comes, and that we may have a prosperous season.—E. WOODHAM, *Clavering, Newport, Essex.*

HAZEL FRUCTIFICATION.

[4329.] In replying, on page 135, to Mr. Woodley's question on hazel pollen (4300, page 124), I alluded to the mode of fructification of the hazel, which applies to "witch-hazel" as well as the common nut-hazel. It will be seen that no mistake occurred, as suggested by Mr. E. E. Smith (4324), as it was not specified which species of shrub was under discussion. The common nut-hazel is indigenous, while the habitat of the witch-hazel is Canada and the United States; but the latter

is to be found cultivated in the British Isles. It matters not whether the "witch-hazel" is visited by bees—in England or America—the fact remains that the common nut-hazel is appreciated by *Apis mellifica* in some localities, a proof of which is in the fact that a well-known experienced bee-keeper of this neighbourhood has had his bees busily engaged on the catkins during the past few weeks. It may be that the attraction bees get is due to the district in which the hazel grows. Sometimes insects are attracted by the sweet fluid secretion of certain flowers, and this may be a possible reason for bees visiting hazel catkins if the climatic influences, soil, and environments are favourable. The pollination is *anemophilous* in the flower in point. Certain structural features are associated with the mode of transference of the pollen. It is produced in large quantities, is very light and dry, and in some instances is provided with bladders to assist its transport.

It is when the flowers are *polygamous* (having male, female, and hermaphrodite flowers variously mixed on the same plant) groups of nuts are produced. Where *unisexual* flowers—*i.e.*, either all male or female—or *monocious*, where the male and female flowers are distinct but on the same plant, the solitary nut is the result.—A. W. SALMON, *Waltham Abbey, April* 13.

UNDESIRABLE SWARMING.

[4330.] Really, Mr. Editor, what a wicked individual I feel now that Mr. Loveday has found me out! I suppose I must confess myself unnatural, and even a little dishonest, in allowing my neighbours to keep drones for my "use." But, seriously, is it not somewhat late in the day to brand as unnatural any operation in modern bee-keeping? To get "back to nature" I suppose we must all (including Mr. Loveday) take to "curious hives," such as were seen in the bee-garden of Mr. A. Joyce (shown on page 115 last month), *i.e.*, a section of a tree. No sections, no frames, no feeders, no artificial swarms, no queen-rearing—but there, why continue? Rather would I suggest that any operation which, while based on natural lines, is conducive to a given end is perfectly legitimate. I like that touch, a "neighbour's park"; it gives one a sort of "lord of the earth" feeling. In regard to securing the best drones, I rather fancy that we "humans" consider ourselves the best judges as to which are the most desirable insects of that sect, and this being granted, does it not appear that we shall get the best results, viz., the best drones, if we destroy those that do not come up to our ideas in this direction? We can also allow a larger number of those we consider best to be hatched. Though we may lament the fact, yet it is none the less so, that a great recommendation to many when buying bees would be that quoted by at least one dealer in the same, that his bees are "non-swarmers." I am very pleased to have Mr. Loveday's criticism, but will he tell us how he gets one-third of a frame only devoted to drone comb? Does he put in a frame two-thirds full of worker-comb and allow them to fill the remainder with drone-comb? Does he piece the foundation, or is it pure chance, and therefore natural? Finally, may I ask a question:—Can any reader of the B.B.J. oblige by telling me of a method by which the growth of heather on a public common might be accelerated? It is a sandy soil.—WILL HAMPTON, *Richmond.*

WAX RENDERING.

[4331.] I am rather surprised to learn that Mr. Loveday, on page 103, finds wax rendering "a messy job," and that he keeps his cappings, &c., for rendering in the autumn. Does he not find them ferment? Since adopting the following plan I find wax rendering perfectly cleanly and simple. I get the potato-steamer, and tie a piece of strong muslin over the bottom. Then stand it in a large basin, or other suitable vessel, and uncap combs into steamer over this, and, as soon as honey-extracting is finished, stand the steamer over a shallow-tin on a couple of sticks; place both in a warm oven, so as to drain out all the honey (taking care it never gets hotter than 120 to 130 deg. Fahr.). Then take away tin and pour out honey. Next put some water in the tin and replace in oven as before, and allow heat to go up to 150 to 160 deg. The wax, of course, oozes through and floats on the water. Wax thus extracted is quite clean, the water being flavoured with honey. I use in syrup for autumn feeding. I usually put cappings in the oven the last thing at night, when the fire is dying out, and find combs and cappings quite dry in the morning, and just right for rendering.—A. H., *Wavendon, Bucks.*

ANCIENT BEE-BOOKS.

"The reformed commonwealth of Bees." Presented in several Letters and observations to Samuel Hartlib, Esq. London. Printed for Giles Calvert at the Black-Spread-Eagle at the West-end of Pauls. 1655.

[4332.] Eleven momentous years have passed since the "Parliament of Bees" was published; and now, as a straw may show the wind, so the title of Hartlib's book tells of a monarchy upset, and England in the strong hands of Cromwell, the Protector. The interest of the book is two-fold. It marks a decided advance in hive construction, and it discloses the gratifying fact that in the seventeenth century, as, indeed, in all ages, there were men of note and learning who were interested in bee-keeping.

Hartlib was the son of a Polish merchant, and came to England about 1628. He was a man of many hobbies, nominally a merchant, but a writer on many subjects. At one time

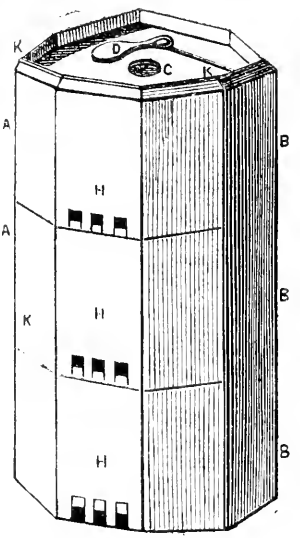
in straitened circumstances, he obtained a pension from Parliament in 1646 for an essay on husbandry. He died about 1670. His name appears in the pages of the two great diarists, his contemporaries, Pepys and Evelyn. The latter, who was himself a many-sided and ingenious man and a great gardener, took much interest in Hartlib and befriended him when in difficulties. He visited him in London, and describes him as "a public spirited and ingenious person, who had propagated many useful things and arts."

Hartlib's book shows that the principle of using movable wooden hives of the same size in combination, one above the other, was recognised at the date of publication. Nadiring was preferred to supering, as being more in conformity with the custom of bees to build downwards. Two distinct hives of this kind are described and figured; the first, that of "that zealous publick-hearted and learned gentleman Thomas Brown, Doctor in Divinity, and of the Civill Law." His hive bodies were circular, of bushel capacity, with iron handles, made out of casks. "Though in some places they make them square of four boards, yet because the round Figure is the most perfect, I rather choose it." The hive was stocked by placing a skep on the top and letting the bees work down. Three hives, tiered as in use, are shown in the figure. The upper hives were to be removed "when you see it most convenient, without the least trouble to the Bees or to yourself." The worthy Doctor was a bit of an optimist.

"And because Bees cannot conveniently work in such a void space without some support for their combs, the fittest that I can think on may be in imitation of such frames as Gardeners use for their Gilliflowers, composed of three or four very small hoops, and as many posts of Fir, with some crosse bars at the top, and in the middle to stay the combs, and that these may not be shaken nor moved, in the bare space at the bottom of the vessell bore two holes, one opposite to the other, through the vessell and the frame, and so fasten them together." Note in this rude device the first recorded advance in the evolution of the modern bar-frame hive. There was no further advance of any importance until 1780; when John Keys, using with his wooden boxes six parallel bars still rigidly connected, made them "to take in or out, with the combs fixed to them, at pleasure." ("The Antient Bee-Master's Farewell." 1796.)

The other hive figured is a "Transparent Bee-hive," consisting of three octagonal bodies, interchangeable for tiering, without handles. Each body had on one side three little entrances close together, with sliding doors, and to allow the bees to pass from body to body, each had a round hole in its top that could be closed at will from outside by means of a wire working on a hinged wooden flap. The top and bottom edges were bevelled to ensure accurate fitting. On the side opposite to the entrances a glass window was cemented in, and protected by hinged shutters. The bodies were lined with rush matting, and protected by an outer casing.

This hive appears to have been designed by a Mr. Will. Mewe, minister at Easlington, in Gloucestershire. Hartlib terms him the "Father of that pleasant and profitable invention," and publishes two letters from him written in 1653. It is chiefly for his glass windows that the inventor claims credit. He states that he gave a pattern hive to "Dr. Wilkins, Warden of Waddham, who hath with great curiosity set up one in his garden, and as I hear is setting up another with augmentations," and adds:—"I never kept twenty stalls, and usually take but half, yet doe I value my Wax and Honey worth twenty Nobles at the least."



"MEWE'S" HIVE.
Used by Sir Christopher Wren.

There follows a letter from Mr. Christopher Wren, "Fellow of All-Soules Colledge in Oxford," dated February 26, 1654, who gives his experiences with the hive. They had put two swarms together into the tiered up hive, and the bees had filled the two lower bodies, but in the top box had built only two little combs, which they afterwards "quite deserted contrary to our expectation; which was that they would have wrought most in the upper story, and in the middle most, in which, when they had wrought enough for their own spending, that then we might take away the uppermost from them, and so have continued still: but if we find another year that they fill not again the uppermost it will be all one still to take away the lowermost from them, but if that be so, then two Hives will be sufficient." He desires further light in this business from Mr. Hartlibb "for as yet you

see ours is imperfect, and we know not what to make of it."

The brisk young bee-keeper who wrote this letter grew up to be one of England's great men, better known as Sir Christopher Wren, the architect who after the Great Fire in 1666 designed St. Paul's Cathedral and many other public buildings, and had he been permitted would have made the new London a fair and spacious city. At the date of the letter he was twenty-three, and intimate with the Dr. Wilkins mentioned above, Dean of Ripon, and afterwards Bishop of Chester. Doubtless it was with the Doctor's hive that the two friends had experimented. Evelyn visited the Doctor at Oxford that summer, and was introduced to "that progidious young scholar, Mr. Chr. Wren." The visit is thus described in Evelyn's diary:—"We all dined with that most obliging and universally-curious Dr. Wilkins's, at Wadham College. He was the first who shew'd me the transparent apiaries, which he had built like castles and palaces, and so order'd them one upon another as to take the honey without destroying the bees. These were adorn'd with a variety of dials, little statues, vanes &c.; and he was so aboundantly civil, finding me pleas'd with them, to present me with one of ye hives which he had empty, and which I afterwards had in my garden at Sayes Court, where it continu'd many years, and which his Majestie came on purpose to see and contemplate with much satisfaction." King Charles II. was interested in bees, and kept a Royal Bee-Master, one Moses Rusden, whose book I possess and hope to be able to notice.

Hartlib's book also contains "A translate of a Letter written in high-Dutch, communicating a Secret for the better ordering and preserving of Bees, practised beyond the Seas." This consists of lateral extension with circular straw hives resting on planks. It was to be practised in a garret. There is an accompanying figure. A short list of English bee-books is also given.—SOUTH DEVON ENTHUSIAST.

P.S.—A discussion was started in the first, and continued at intervals through the two following volumes of the BRITISH BEE JOURNAL, as to who was the originator of the octagonal Stewarton hive. The interest centred on Hartlib's book, and a figure of Mr. Mewe's hive, as used by Wren, extracted from it was given in the number for January 1, 1875. Had the disputants consulted Evelyn the matter would have been much sooner settled.—S. D. E.

Queries and Replies.

[2623.] *The "Early Drone."*—On the afternoon of Sunday, April 7, the weather at 3 p.m. was as warm as in the most favourable spring, and there was quite a "song" of the thousands of bees flying about the hives; it looked as if they were going to swarm. As I stood by one hive I heard a louder hum than usual, first near, then further away, then it came close to, and I observed one of the finest drones I ever saw alight at the entrance to the hive I was watching. He walked leisurely in, but there was no mistaking his burly form. The bees were working hard and carrying in small quantities of pollen. Can you account for this early drone?—GEO. BREALEY, *Grendon, Northants, April* 9.

REPLY.—A very brief inspection of the combs would readily account for the drone referred to. It is either a very good sign of a prosperous colony, or an equally bad indication of either queenlessness or drone-breeding queen. In some seasons a drone at the date named would be nothing uncommon, but in so backward a season as this it looks suspicious, to say the least.

[2624.] *Suspected "Fertile Worker."*—I enclose a piece of comb from one of my hives, and would be glad of your opinion concerning same. As far as I can judge, the signs indicate the presence of a fertile worker, for on opening the hive to-day I found that there were a good many drones. I could not see any queen, although I made an attempt to introduce one in September last. You might also say if there are any indications of foul brood. There are a good many bees. 1. If I am right in my surmise regarding fertile worker, what is the best thing to do with the bees? 2. If any trace of foul brood, could they be safely joined to another hive?—S. B. C., *co. Antrim, April* 9.

REPLY.—The brood in comb clearly disproves your suspicion of a fertile worker in the hive. In the latter case the brood would be found scattered, a few cells occupied here and there with the intervening cells empty. The sealed cells in comb sent is compact and close, with no odd empty ones. We therefore deem it fairly certain that either the queen introduced in September was unmated and a drone-breeder, or else the queen in question came to grief after breeding for a short time, and that the bees raised a successor too late in the season for breeding purposes. To your queries we therefore reply:—1. Had it been a fertile worker the colony would have been of very little value, owing to its consisting so largely of aged bees. 2. If the stock was affected with foul brood, it would be the height of folly to risk infecting another colony by joining the diseased bees to it.

[2625.] *Faulty Bee-Candy.*—I should like to ascertain the most probable cause of a disaster which befell two of my stocks of bees from supplemental feeding in February under the following circumstances:—I got four driven stocks of bees last autumn; they were well fed up, but lest they should run short I put in candy overhead made from "Lyle's granu-

lated" sugar. I used the latter by way of experiment instead of the usual lump sugar. It turned out slightly brown when ready for use, was very adhesive when cooled, and was slightly sticky in substance. A fortnight after putting it in I observed a number of dead bees about the entrances of the two hives referred to, and on examination I found that each cake had melted like glue or treacle, running down over the combs and destroying a great number of bees—probably the queen also in the cases mentioned, as both stocks perished. I had often fed my bees on home-made candy before, and always inserted it when packing up the bees for winter. Do you consider the unfortunate result is attributable to the material or its method of preparation, or the effect of the atmosphere on it?—R. H., *Woodeaton Rectory, Oxford.*

REPLY.—We should very much like to see a sample of the candy referred to, in view of similar complaints which have reached us. We have not had any experience of the particular sugar named, but those who use only pure cane lump sugar secure far more uniformly successful results than with any other kind. Numerous instances have come to our knowledge wherein improperly-made candy has liquefied sufficiently while on the hive as to run over combs and to cause the death of bees. We should be in a much better position to judge whether or not the mishap is attributable to the candy if we had a sample before us.

[2626.] *Reliquefying Granulated Honey in Comb.*—Is the ordinary wax-extractor with spout a suitable thing for remelting granulated honey in comb? That is to say, will the steam in the perforated basket do any harm to the honey by making it contain much water after the operation? My personal opinion is that the honey in this way will be more sweet and nice, seeing that it will not be so long on the fire as when the combs are left on the fire until the whole is dissolved.—H. P. M., *Pwllheli, April* 9.

REPLY.—The ordinary (or "Gerster") wax-extractor with spout is an entirely unsuitable appliance for the purpose referred to, for reasons which should be obvious to all. The combs of granulated honey should be cut up and put into an earthenware jar; the latter is placed in a larger vessel, standing on blocks of wood in order to raise it up from the bottom. Then pour in cold water so as to surround the honey on all sides, and heat till the whole is liquefied. The wax is removed in a solid cake when cold.

[2627.] *Spring Feeding.*—I shall be obliged for information on the following point:—1. My two frame-hives have still plenty of sealed stores. I feared they might be short, so supplied them well with candy, which they have eaten and thus saved their stores. Shall I give any syrup-food, or merely uncap some of their stores occasionally? 2. Will it not upset the bees to meddle so often with them? I presume I must use my carbolic cloth when I uncap, so I fear it may disturb them too much. I am also feeding my stock in a straw skep, which seems in a more forward condition than the frame-hive. The bees in skep have been carrying in pollen for some time whenever we had a fine day. The other two colonies were only noticed carrying in pollen on Friday, the 5th inst., yet they seem strong enough. 3. I suppose the end of this month or beginning of May will be early enough to transfer the bees of skep by putting a frame-hive beneath, will it not? 4. Do bees gather anything from wild mustard (charlock) which grows freely among the corn in this district? I do not know much about bee-plants and would be glad to get some information on that subject.—M. M. McC., *Doune, N.B., April* 6.

REPLY.—1. Uncap sealed stores at intervals of about a week. If the cappings are bruised or scratched—to break the sealing—it does quite as well as uncapping. 2. A puff or two from the smoker is more helpful than the carbolised cloth for the purpose named, and need cause very little disturbance. 3. Unless the skep is very strong in bees the second week of May will be quite early enough to arrange for transferring in so backward a season as this, bearing in mind your Northern location. 4 Yes, charlock yields honey freely.

[2628.] *Feeding Outside to Stop Robbing.*—Would you kindly instruct me on the following, through the B.B.J.:—I have a stock that is being robbed by the bees of the adjoining hives. I have tried the method laid down in the "Guide Book" for stopping it, but without success. Of course, it has been going on for some time unnoticed. I have been thinking if I got an empty hive, and placed it near the one that is being robbed, and put diluted honey on a plate with small bits of cork floating in it, and place it in the hive, and let all the bees have free access to it, would it induce the bees to discontinue the robbing, and answer the purpose of stimulative feeding, or would it only encourage the mischief? Of course, I mean to continue the feeding in this way until the bees can get sufficient honey from other sources. I again await your valuable advice.—ROBERT PARKINSON, *Newcastle, co. Down, April* 8.

REPLY.—If the robbed colony is weak in bees it will be very difficult to protect it if attacked by bees from several other stocks. The probability is that the bees in question are either queenless or very weak, and in either case they may not be worth trouble in trying to save them. On the other hand, if there is a queen and sufficient bees to make the effort desirable, we advise removing the hive indoors for a few days, leaving its stand vacant in the meantime. The plan of placing none near to attract the robbers will only add to the trouble.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MR. FRED. E. GIFFORD, 10, Ealing Park-gardens, Brentford, writes: "Referring to your correspondent, 'A. T. H., Ealing,' on page 149 in your last issue, if I can be of any assistance to him I shall be pleased to place my services at his disposal."

J. GARSIDE (Manchester).—*Bees Dying in Spring.*—1. There is no trace of any brood in comb, nor are there any sealed cells. A few of the cells contain pollen, but we find nothing to indicate disease. Without seeing a sample of the bee-candy given two months ago we cannot form an opinion whether it has contributed in any way to the death of the bees, but seeing that careful search among the dead bees failed to find any trace of a queen the stock must have been queenless for some time, and the bees have probably died, as queenless lots often do, from inanition.

Destroying Queen Wasps.—Referring to the letter of Mr. Parks (4312, page 136), Mr. E. Parsons, Tunbridge Wells, writes to say he himself killed 110 queen wasps one year (1897), and in other years has also destroyed a good number, thus helping to clear his district of these pests to bee-keepers.

BEGINNER (Edenbridge).—*Races of Bees.*—Nos. 1 and 3 are the ordinary brown variety. No. 2 was flattened out of recognition in post. We cannot judge of their working qualities from inspection.

J. C. (Worcester) and NOVICE (Yorks).—*Suspected Combs.*—The hive from which comb was cut is affected with foul brood of old standing.

H. DEVEREUX (Shillington).—The dead brood in comb sent is "chilled" only, there being no trace of disease.

W. M. WEBB (Hanwell).—*Illustrations from Photos.*—The photos you refer to are copyright, and, in consequence, no one is at liberty to reproduce them without the consent of publishers.

W. G. D. (Salisbury).—*Packing Suspected Combs.*—Comb contains nothing worse than pollen, some of it mildewed. There is no trace of disease. The comb was packed admirably, and we are pleased to see readers abiding by our instructions in this respect.

*** *We again regret being compelled to hold over several articles, already in type, until next week, together with Trade Catalogues.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

TWO 1900 selected ENGLISH QUEENS to spare, 5s. each. ATCHLEY, Willsbridge, Bristol. F 12

WANTED AT ONCE, six STOCKS healthy BEES at wholesale price for cash. State varieties. DEALER, Office of this Journal. F 13

Prepaid Advertisements (*Continued*).

FOR SALE, Three 28-lb. tins splendid bright HONEY, 6d. lb.; also four lb. wax. W. J. CORK, Tilmanstone, Dover. F 6

ASPARAGUS, Canovers' Colossal, strong 2-year-old plants, 2s. 9d. per 100. Carriage free. PATEY, Alpha, Chillington, Kingsbridge, Devon. F 10

25 STONES best HEATHER HONEY, 6d. per lb. Carriage paid on six stones or over. THOS. HOOD, Pickering, Yorks. F 1

15 STRONG healthy STOCKS of bees FOR SALE, in good frame hives. (Abbott's Standard frames). Apply to Miss GAYTON, Much Hadham, Herts. F 8

THREE STOCKS BEES in frame hives, 15s. each. Six ditto in skeps, 9s. 6d. each. WEBB, Station-road, Swindon. F 2

EXTRACTED ENGLISH HONEY, 11s. 6d. per ½ cwt. Tins free. Sample, 2d. Deposit system. RICHD. DUTTON, Terling, Essex. F 7

HIVES, with BEES, ten Standard frames. Surplus stock. Guinea each. BEAVAN, Saffron Walden. F 9

FOR SALE, nine HIVES of BEES consisting of four bar-frame complete, and five skeps. Mrs. J. WARD, Bowness-on-Solway, Burgh-by-Sands, Cumberland. F 5

25TH YEAR.—NUCLEI, three, six, or eight frames 12s. 6d., 16s., 18s. Skeps, 10s. 6d., 12s. 6d., May swarms booked. All packages free. ALSFORD, Expert, Blandford. F 11

NUCLEI and STOCKS of BEES headed by prolific queens, common, home-bred Carniolan or Italian. Pure extracted honey. E. WOODHAM, Clavering, Newport, Essex. F 3

REALLY strong STOCKS BEES, on Standard frames, including brood-box, 25s.; ordinary stocks, 12s. 6d. or with proved "Swarm Preventing Hives," 17s. 6d. extra. Twenty years' "Bazaar" reference. ALBERT HARRIS, Wavendon, Woburn Sands, Bedfordshire. F 4

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

GOOD STOCKS of superior BEES for Spring delivery. JOHN WALTON, Honey Cott, Weston, Leamington.

18 SEED PACKETS of choice popular bee-flowers, with cultural directions, post free for 1s. 3d. GUTHRIE BROS., Seed Merchants, &c., Alloway, Ayr.

1,000 LB. HONEY FOR SALE, cheap. 40 lb. sent on approval. Apply, JOHNSON'S APIARY, Soham, Cambs. E 70

ITALIANS, first-cross, best honey gatherers. Good tempered. Strong ten-frame stocks, with last season's Queens; guaranteed free from foul brood. £1 each. O. KNIGHT, Epney, nr. Stonehouse, Glos. E 76

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

WANTED a BOY to look after BEES and work in garden. Board, lodging, and moderate wages. Apply, stating experience, to "H. A. H.," Office of this Paper.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

BEES FOR SALE.—I am SELLING some good STOCKS at 17s. 6d. and 20s. each, without hives; with the hives, 22s. 6d. and 25s. One 1900 LAYING QUEEN FOR SALE, 4s. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

QUEENS, NUCLEI, STOCKS.—Highest quality for nearly 30 years, and British Emporium for queens giving unparalleled results. Virgins from 1s. 9d. Warranted fertile young queens from 5s. Most interesting circulars free S. SIMMINS, Heathfield, Sussex. E 96

BUY YOUR BEES from a HEALTHY DISTRICT. May swarms, 12s. 6d.; June swarms, 10s. 6d. Six substantial Hives on splayed legs (new), ¾-in. well-seasoned pine, 8s. 6d. each; with shallow-frame lift, 10s. 6d. each (unfurnished). Appliances, bottles, &c., at lowest prices. State your wants, to J. ARTHARS, Studley, R.S.O., Warwickshire. E 94

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held on Thursday, the 18th inst., at 105, Jermyn-street, S.W., Mr. F. B. White occupying the chair. There were also present Miss Gayton, Messrs. W. Broughton Carr, T. S. Elliot, W. H. Harris, J. M. Hooker, J. H. New, W. F. Reid, E. Walker, T. I. Weston, and the Secretary. Letters apologising for enforced absence were read from the Hon. and Rev. Henry Bligh, Colonel Walker, Mr. R. T. Andrews, Mr. H. Jonas, and Mr. E. D. Till.

The following new members were elected :—Mr. C. A. Atchley, Oldland Hall, Willsbridge, near Bristol ; Cumberland Bee-keepers' Association, Hon. Sec., Mr. John Vicars, Gillbank, Boot, Cumberland.

Mr. Weston, on behalf of the Finance Committee, reported that the receipts and expenditure to date had been examined by the Committee, and that a sum of £50 15s. stood to the credit of the Society at the bank. The report was approved.

Correspondence inviting suggestions for improving or extending the competitions for honey at the Confectioners' and Grocers' Exhibitions was referred to Messrs. Carr and the Secretary, who were authorised to deal with the matter. Nominations of judges were made, and ordered to be submitted to the two Societies interested.

The Secretary reported that as a result of the appeal in the B.B.J. for donations in aid of the Dairy Show Prize Fund a sum of £8 3s. 6d. had been received. Promises had also come to hand which would raise the total to £9 13s. 6d. This was considered to be insufficient to meet the requirements, and much below what was anticipated. It was therefore resolved to keep the list open for a short time longer, in the hope that further donations may be sent in.

Communications were received from the Société d'Apiculture and d'Insectologie Agricole du Departmente de l'Aisne, inviting representatives of the B.B.K.A. to act as members of the jury at the exhibition to be held at Laon, July 14 to 23 next. Subject to approval of the nomination it was resolved to ask Mr. R. Hamlyn-Harris to undertake the duties referred to. The consideration of an application for medals was deferred, pending the receipt of the proposed prize schedule.

The next meeting of the Council will be held on Thursday, May 16.

THE "ROYAL" SHOW AT CARDIFF.

Readers are reminded that the entries for the above important show close on May 1, so that Tuesday next, April 30, is the last day for posting entries without incurring cost of extra fees.

The present outlook for early honey is so promising that we invite entries for honey of 1901, seeing that the usual facilities will be afforded for withdrawing entries for honey in case of the season being adverse at date of show. Prize-lists may be had from Mr. E. H. Young, secretary B.B.K.A., 12, Hanover-square, London.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

DAIRY SHOW PRIZE FUND.

[4333.] Please permit me to acknowledge in your columns, with thanks, a number of additions to the Special Dairy Show Prize Fund which have been either received or promised since the publication of the last statement. The full list to date is as follows :—

Already acknowledged	£4	5	0
Mr. H. Jonas	1	1	0
Mr. J. M. Hooker	1	0	0
Mr. J. H. New	0	10	0
Mr. L. Belsham	0	5	0
Mr. E. D. Till	0	5	0
Mr. E. Walker	0	5	0
Mr. J. C. Harker	0	5	0
Mr. R. C. Blundell.....	0	5	0
Miss Gayton	0	5	0
Mr. W. H. Harris	0	5	0
Mr. W. F. Reid	0	5	0
Mr. T. I. Weston	0	5	0
Mr. W. Woodley	0	5	0
Mr. W. G. Dear	0	2	6
Mr. H. W. Seymour	0	2	6
Mr. V. H. E. Watts-Silvester	0	2	6
Total.....	£9	13	6

The Council desire to emphasise the fact that the amount is far from adequate to cover the demands, and are hopeful that others may be inclined to contribute to the fund, which will remain open a short time longer for this purpose.—EDWIN A. YOUNG, Secretary, 12, *Hanover-square, London, W., April* 23.

THE AGE OF BEES.

[4334] My interest in this subject was aroused by reading in Root's "A B C of Bee-Culture" (page 353, Doolittle's Comments) that worker bees, owing to their excessive labours, only live forty-five days in the height of the honey season. When I read this statement I could not understand how a swarm continues to flourish if the original bees died off so soon. The youngest bee in a swarm when it issues cannot be less than five days old; therefore if bees only live forty-five days, all the old bees will be dead in forty days after hiving. Now, twenty-one days must elapse before any young bees could be reared in a swarm, and fourteen more before they could be efficient field workers (see below), making thirty-five days in all. Hence forty days after a swarm issued, the only field workers in the hive would be those reared from the eggs the queen laid during the first five days after the swarm was hived. These would be very few, and in the case of a cast there would actually be no field workers. I thought perhaps the difficulty might be solved by the young bees reared in the swarm taking to field labour at an earlier age than is generally the case. But to settle the question I determined to try some experiments. Accordingly, on the evening of July 12 last year I introduced an Italian queen to a rather weak hive of black bees which had been broodless for about a week. The young Ligurians flew on August 8, *i.e.*, twenty-six days after the queen began to lay. The young Italians were then five days old. The Italians did not become efficient field labourers until fourteen days old, at which age they worked as late in the evening and gathered nearly as much pollen as the blacks. They gathered very small loads of pollen when twelve and thirteen days old, working only in the middle of the day. Forty-five days after the queen was introduced the proportion* of black bees to Italians engaged in field labour was three to four. There would not have been so many Italian field workers in the hive at this date if the hive had not contained ready-built combs when the queen was introduced. Thus she was enabled to begin laying at once. Fifty-two days after the queen was introduced the proportion was one to ten. Seven days later the few remaining black bees were bullied, as is frequently the case with worn-out bees. On the following day the black bees were practically extinct. Thus they lived fifty-nine days after the introduction of the Italian queen. When the Italians were forty-five days old, I saw an Italian completely worn out with tattered wings. Other Italian bees in the hive also looked very old. There was no doubt that these worn-out bees were reared in the hive, since there was no other Italian colony near. This incident is mentioned because it shows that Italians can be worn out in forty-five days. At this date no Italian in the hive could be over forty-five days, since the queen had only commenced laying sixty-six days before.

I ought to add that there is heather in my district, so the bees worked hard in August and September. The Italian queen was very prolific — nine combs contained brood on July 26, and eight combs were three-parts filled with brood in the middle of August.

I was some little time in trying to discover why bees which accompanied a swarm live longer than bees in the ordinary course. I think the explanation is that during the first three or four weeks after a swarm is hived, the yonnger bees act as nurses and comb-builders, and do not wear themselves out in the fields until other young bees are ready to take their places. Thus, instead of being nurses and comb-builders for about fourteen days, they perform these offices for nearly twice that time; consequently their wings are not worn out so early in life as bees which become field labourers in the ordinary course.

The youngest bees in a hive seem always to stay indoors, and never engage in field labour even if they are of a suitable age. A case happened in my apiary which illustrates this fact. On June 20 last year I removed the virgin queen from a black cast and substituted an Italian queen. Two days later some more black flying bees were added to the cast, which now became fairly strong; but on July 2 the Italian queen was found dead outside the hive. She had, however, previously laid about 1,000 eggs, and the bees succeeded in rearing a new queen. The bees continued to work hard, and on July 15 a dead virgin Italian queen was found outside. A few young Italians were seen flying from the 16th to the 19th, but after this date the Ligurians did not appear outside either as ventilators, sentinels, or field workers. The hive was frequently watched during the day and in the evening. Four out of every five black bees engaged in field labour at this date (July 19) had very tattered wings. The young Italian queen laid very few eggs — about fifty — during the whole time she was in the hive. These eggs produced hybrids. On July 25 all the worn-out black bees, which were so numerous on July 19, had disappeared except a very few, their places being filled by black bees, not young, but with perfect wings, who probably had been engaged in comb-building. On August 15 the hive was very weak, the black bees getting fewer every day. On that day the stock was united to another, there being danger from robber bees. The Italians, now about thirty-five days old, had not decreased in numbers, and since they were the youngest bees in the hive (except about fifty hybrids), never appeared outside except for their first flight in July. They still had perfect wings and looked quite young. The old black bees, on the other hand, worked

* The proportion was obtained by counting the bees entering the hive when young bees were not flying.

hard outside even in August when hardly any brood was being raised.

The reason, then, why bees in a swarm live longer than usual seems to be that the younger bees of the swarm have to serve as indoor workers for a longer time than they would do in a hive containing constantly-hatching brood, and they thus are not exposed to the accidents and hard labour experienced by field workers. —H. B. Buckston, *Hope, near Sheffield, April* 19.

COMMENTS ON CURRENT TOPICS.

[4335.] *Number of Section Racks.*—The late discussion on size of sections was timely, and, as I think, properly closured, as the Cimmerian Bog of a wordy war, into which it was degenerating, was neither profitable nor edifying. So exit "size"; enter *number*. An interrogative note of incredulity has been reiteratedly sounded since I wrote of Banffshire bees working in "in five racks at one time," but the words were not coined for the occasion, as the fact has been repeatedly recorded in your pages. If the sentence is reread as it originally appeared in my "Comments," it will be seen that the personal element has been needlessly interpolated. Eliminate this, and it follows that the "foremost" position it is suggested I claim, or may seek to claim, is purely fictitious, and but the creation of a fertile fancy. No! I am still a diligent *student*, and, though very successful, many Northern bee-men are more so. All bee-keepers must acknowledge that the circumstance of having five racks occupied is very likely to be a rare one, occurring only at intervals, like the blossoming of certain tropical plants in our conservatories. I never asserted or implied that it was an every-day event. The sentence was originally written as a counterpoise to the following from Yorkshire: "North of the Humber we cannot rely on a honey-flow that will fill *one rack* of sections." I am content to leave them side by side as two extremes illustrating success and the want of it. When learning the A B C of bee-keeping, our junior editor taught me that "bees do nothing invariably," and experience has fully convinced me of the truth of the semi-Hibernianism, so, when speaking of bees and their management, I give dogmatism a wide berth, and would never make such an assertion as that a bee-man would be "foolish" in doing or leaving undone a certain thing. Circumstances alter cases, and so excellent a bee-keeper as Mr. Woodley, content with two racks at a time, intuitively grasps my surroundings and comes to the conclusion that I may be right in using more. Much as I enjoy bee-keeping, I would give it up to-morrow if I were restricted to two racks, as such a confined space in the height of the season would be altogether inadequate.

I give merely an outline of my plan. Some time about June 10 to 20 I give every colony one rack, which I replace by a second, say about July 1 to 10 (dates are only approximate), and if they are strong and doing well, a fortnight later a third is given. But I am contented to have the full sheets of foundation in each of these fully drawn out. I do not wish the sections to be completed, though, as a rule, if they are I accept them as a necessary evil. Up to this point, though I have had two or three racks on, according to the season and the strength of the colony, yet there has been only *one at a time*. Till near the end of July I keep on getting bees, and my one object is to have colonies at their strongest with the advent of August and the heather, of which I have an illimitable sea in close proximity to my hives. The swarming propensity is at its most dangerous point during the last week of July and the first week of August. Here comes the crucial point where it is suggested I am unorthodox. One rack, or even two, would never control the swarming fever, so I give a new rack, as a rule, under the one which has been on for a week or more, as bees are keen for comb-building then, and in a very few days I put on one with drawn-out comb above the other two. Now until the 10th or 12th of August, in the close and sultry days we generally have then, special care must be taken to hinder swarming, so I place a fourth rack above all my strongest colonies, regardless of whether bees take to it or not. It is placed there simply as a safety-valve or cooler to check undesirable swarming, prevent loitering on the flight-board, and aid in keeping the diligent workers fully employed. But in a large number of cases it is taken to at once, and then one of the spare racks with drawn-out comb is at once substituted. It will be observed that I endeavour to start the heather harvest in the position of one who works for extracting with combed supers, and I rarely give bees any comb-building to do after the middle of August, so I can assert that the percentage of unfinished sections at the end of the season is very small, unless (aye, there's the rub!) when a deluge comes and prematurely washes out all nectar from the heather bloom. As early in August as possible I reduce from four racks to three, then to two, and later to one, but the fact remains that during the height of the season bees have been actively working in four (and even five) racks, not from force or necessity, but from free choice.

Spring at Last!—The past month has been a stormy one, and we have experienced "Winter still lingering on the verge of spring retire reluctant, and with the tyrannous breathing of the north check all our buds from blowing." What of spring has gone has proved to a great extent but the "child of curlish winter, discovering much the image of his sire." But now the "sweet influences of the Pleiades" pervade the air, and we can say, "Come, gentle spring, ethereal mild-

ness, come!" and welcome the opening charms of leaf and flower. The songsters of the grove have found their voices, for the "Time of the singing of birds has come." The change distils new energy in all lovers of Nature, and we can exclaim with Browning—

> Oh, to be in England, now that April's there,
> For the chaffinch sings on the greenwood bough
> In England now.

At last we can add, in Scotland, too!

Exhibition Honey Exhibit.—I was pleased to learn from Mr. Kerr's note (4314, page 136) that the S.S.B.K.A. is to move in this matter. I trust his appeal for funds for so laudable an object may have a hearty response, and I forward my mite with pleasure. In answer to his little "dig" at me, I may say that when his Association drops the superfluous "S" I will at once become a member. I trust the suggestion is a feasible one, and that the admirable work done in the South may extend to the whole of Scotland. The "South" Association is the nucleus; add "frames" (counties), and we have the full colony.—D. M. M., *Banff, N.B., April* 22.

SEARCHING OUT FOUL BROOD.

A GOOD EXAMPLE.

[4336.] While out cycling through the Derwent valley a few days ago, I was called in to look over some bees owned by a lady. There were about thirty stocks in the apiary, and I went through the lot. I found them all in fair condition until nearing the end, when I came upon a hive the bees of which had died during the winter, of what, I am nearly sure, is foul brood. I will, therefore, be greatly obliged if you will kindly say in the next issue of the JOURNAL whether the piece of comb I send is affected with foul brood or not. I ask this for the satisfaction of the owner of the bees, who would then be on her guard and take steps without delay to prevent the disease from spreading to the other twenty-nine stocks, all of which are, I think, so far healthy.—"BAMFORD," *Buxton, April* 22.

[The comb sent is badly affected with foul brood, and if your timely action has the effect hoped for, you will deserve the thanks of all bee-keepers in the district, along with the gratitude of the owner of the bees. There is sufficient material in that one hive to infect a whole district, if robbing bees had access to it. We trust it is safe to conclude that the hive referred to was promptly closed against robbers?—EDS.]

SOME ESSEX NOTES.

[4337.] *Undesirable Ways of Preventing Swarming.*—In reply to Mr. Will Hampton (4330, page 156), I may say that if I do not get drone-comb built as I require it and where I want it by allowing one-third of a standard frame for the bees to build drone-comb in. I always have "drone-base" foundation by me which I can use for the purpose. As to the "lords of the earth," to whom Mr. H. refers, I think they are in the position, whether they realise it or not, of being in duty bound to do what is necessary for the advancement of any good cause. So that even if no advance is possible, we may at least leave things for the next generation as perfect as we found them. On the other hand, those of us who are mere "labourers" *on the earth* should, and do, find most pleasure in making a point of doing our work as well as we possibly can. Mr. Hampton writes of "modern bee-keeping." Can the pump (be it the public, or his own private, pump) be considered a modern bee-keeping appliance? I think not; nor do I think it either useful or necessary in any degree to encourage queens to waste their energy in laying eggs to be operated upon by what is also known as "the iron-tailed cow."

Pollen from Hazel Catkins.—Bees do gather a considerable quantity of pollen from the common hazel in this neighbourhood in most seasons, *i.e.*, in late February and through March. This year, however, the pollen from that source was all wasted owing to the bees being confined to their hives by bad weather while it was available. But the discussion of this subject has resulted in further proof that with bees, as with us humans, circumstances alter cases. I had previously seen a proof of this by my own bees frequenting a flower in a new district which I had never seen them visit where I lived before.—WM. LOVEDAY, *Hatfield Heath, Harlow, April* 22, 1901.

(*Correspondence continued on page* 166.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary shown on next page belongs to a gentleman who kept bees in the days when many of the full-grown bee-men now among us were in their "long clothes." To see the "bee-garden" of one who along with his friend, the late T. W. Woodbury, of Exeter (a name dear to all of us "old hands"), has helped to improve the race of bees in this country, and know that he is still living and keeping up his interest in "the bees," is indeed pleasant reading. Not only so, but Mr. Barrell has all along been a helper to the industry. As a Vice-President of the Lincs. B.K.A. his influence in the county has been always used to the advantage of all that is good in bee-keeping.

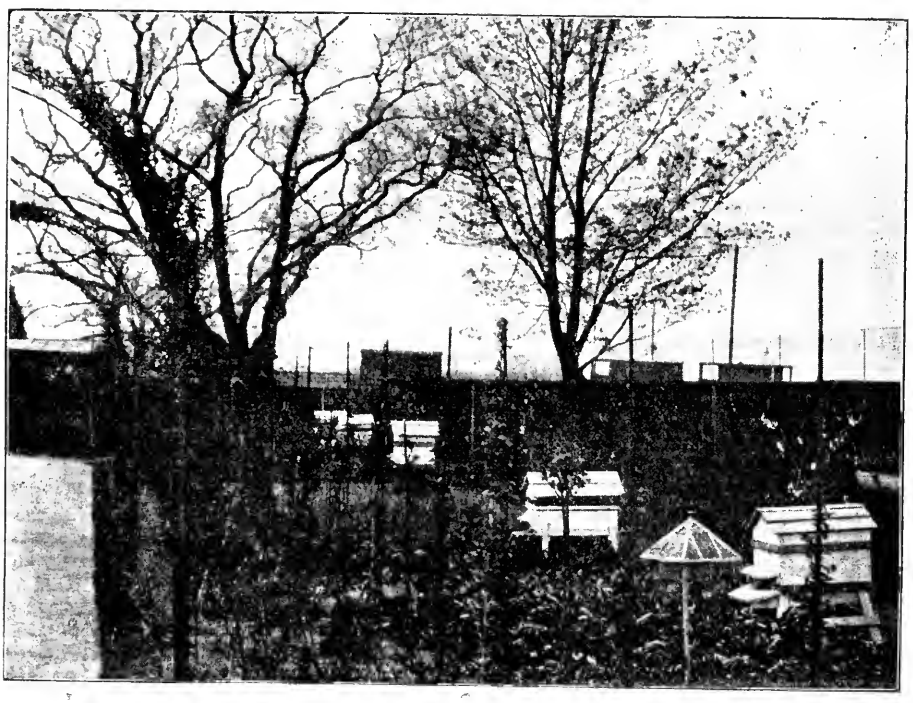
We are sure readers will read with pleasure the following "Notes" sent at our request:—

"My first essays in bee-keeping were made during the time I lived close to the New Southgate station on the Great Northern Railway, my garden being situated partly in Middlesex and partly in Herts. At that time I held an important post in the great publishing house of J. W. Parker & Son, my duties

in town leaving but little opportunity to observe my bees very closely, excepting on Saturdays and Sundays and in the early mornings of the other days of the week. Still I managed to jog along fairly well, and, in conjunction with my friend, Mr. Woodbury, of Exeter (well known years ago under the *nom de plume* of 'A Devonshire Bee-keeper'), was one of the first to introduce the Ligurian bees into this country. The neighbourhood of London is not a good one for bee-keeping, but I think that the crossing of the native blood with the Italian produced a breed much better adapted to grapple with the difficulties of the situation. On one occasion in my haste in unpacking a Ligurian queen just received, I dropped the box and was immediately vaccinated with formic acid by some thirty or more "operators." To this I attribute the small effect that stings have ever since had on me. About thirty-five years since I left London and came to reside in Spalding, and here I picked up some of the apparatus belonging to the late Thomas Nutt—a distant relative—and whose well-known book was the first serious attempt at scientific bee-keeping. This was before the era of bar-frames.

"We are admirably fixed in this district in the early part of the honey season, as we are the headquarters of the English bulb and spring flower growing industry. Crocuses, narcissi, daffodils, tulips, and other early flowers are grown by the acre, and cut flowers are sent off by tons every night to all parts of the kingdom. The bees thus get a good start before the fruit blossom opens, and are generally in strong condition when this occurs. Swarming is usually early, the last week in April being a common time for commencement. Most of the bees here have more or less of the Italian blood in them—an advantage, to my mind. In fact, I consider that, taking all things into account, a first or second cross produces the hardiest and most industrious race that we have.

"I have never grown honey for commercial purposes, though I have generally had good yields, to the delight of my grandchildren and friends; and I chiefly adopt sections, as saving a great deal of trouble in distribution. The great profit I get is the pleasure of studying and watching my industrious labourers. I have taken an active part in disseminating a knowledge of bee-keeping, and, as the Chairman of the first County Council in 1888, for the Parts of Holland in Lincs, and afterwards, I gave many lectures and demonstrations in various places, with very gratifying results. I am an ardent horticulturist, and an amateur photographer of fifty years' standing. The accompanying photo of part of my apiary is one I took last year."



MR. G. F. BARRELL'S APIARY, SPALDING, LINCOLNSHIRE.

CORRESPONDENCE.

(*Continued from page* 164)

BEES AND CELERY PLANTS.

[4338.] The following may interest your readers, one of whom might possibly be able to explain the matter.

Last year I grew a number of celery plants, which in due course were pricked out into shallow-boxes. Having more than I required, some remained in an open frame near my hives until the present time, though, of course, the winter has killed the plants down.

Every day that there has been any sunshine since the bees began to fly the frame referred to has been visited by bees busily intent upon sucking something from the soil.

Query, What do the little beggars find there? The soil was composed of old turf, leaf mould, sand, and manure. I may add that as soon as I noticed this I put out boxes of pollen, which the bees have taken freely, and there was capped brood in all my hives on February 28 last.

I notice in the B.B.J. several instances of bees dying apparently through being transferred late, so send the following remarks taken from a card, one of which I keep in each hive :—

"October 3, 1900.—Bees driven from three skeps. Put on four frames of honey, four of comb, and two foundation, and fed.

"October 10.—Stopped feeding. 24 lb. of syrup taken down.

"February 28, 1901.—Examined. Plenty of food. Brood also. Bees very strong. Uncapped honey."

On October 10, 1900, I helped a friend to drive three other skeps, with a similar result.

Does not this prove that well-fed driven bees will winter, though transferred late?—C. H. TOMLINSON, *King's Heath, April* 15.

[We rather think the *saline* moisture about the compost has attracted the bees, as it occasionally does, to unsavoury places. As regards late transferring being wise or good, it generally fails, and your success is the exception that proves the rule.—EDS.]

MY FIRST YEAR WITH FRAME-HIVES.

[4339.] I had been used to skeps all my life, but often longed for something better, and in due course one of my bee-friends who possessed a few frame-hives offered to fit me up, and sure enough he did so. Then, however, my first trouble with bees began. The hive he supplied me with was an old one, made to take ten standard frames, but it only contained eight, with combs and bees, and a rather long price he charged me for it; but still he initiated me, I believe, to the best of his ability. First he told me the bees were to swarm, and when they had swarmed I was to super them; that was one mistake. However, I bought another hive (more up to date) to receive the swarm, which duly issued in May, and everyone agreed it was the biggest swarm they had ever seen. I often say since, "Save me from my friends," for my friend prepared the new hive for me to receive the swarm, filling four frames with foundation and leaving the others quite empty! In due time I got the bees hived all safe and thought my trouble was over, so I then supered the parent hive (as told), but nine days after another swarm issued from it. This I hived in a skep, my brothers making great fun of my "management." When the second swarm came forth (quite unexpected by myself) my instructions were to super No. 2. Why, I have always been at a loss to understand. However, the summer was nearly over, and I thought my old or parent hive looked very weak. Then came the real awakening, for I met a master of the craft, and he proved a friend indeed. He made an examination of my old hive, and the verdict was, "No queen!" I then gave him a full history of past events. In the end, No. 2 hive was driven and the bees returned to the parent hive. I was next initiated into the art of syrup-making. I had never looked into either hive after supering, my instructions being to "leave them alone and quiet." So my friend did so for me, and on opening them the expression on his face was "a caution." The super was empty, and of the frames four were movable, and the others joined together *en bloc*. As said already, he was a friend indeed, for next day he came with six new frames fitted with full sheets of foundation and wired in. But the mess we had in putting the hives straight I shall never forget. We had to use a carving-knife to get the frames apart. Then syrup-making went on with a vengeance. Since that time, however, I have never looked back in my bee-keeping. I always call it my "successful failure." I still retain the old hive, for in it and from it I received my first practical lesson.—HENRY CLARKE, *Icklesham, Rye, Sussex, April* 15.

BEE-KEEPING NEW AND OLD.

SOME MEMORIES OF MY BEGINNINGS.

[4340.] I have never ventured to put any account of my dealing with bees on paper before, although I might claim a lifelong acquaintance with them, having when quite a youngster (in the early fifties) had to mind the bees when at home for my father who was a great (skeppist) bee-man at that time. He usually saved about thirty stocks for swarming, &c. It is now about thirty years since I started on my own account, and many have been the drawbacks experienced owing to circumstances of my frequently moving about. I have kept bees under almost every imaginable condition—in the country and town;

sometimes on the roof of the house; in the shop; in a small garden; and on one occasion, when living at South Norwood, I had no other place to put the bees in the roof, though I was near to a blacksmith's forge. With all these difficulties, however, I have generally managed to get some honey each year for our own use, which is very much enjoyed by all (except "mother"). I have taken the B.J. for a good many years and manage to consume the whole of the contents each week. Nor do I ever fail to recommend it to those who do not know of its existence. Last year I gave away to a person a full year's copies and he is now a regular subscriber. When cycling about the country —wherever I see that bees are kept—I manage, if I can, to have a chat with the owner, and more especially when they are in skeps; indeed, if time and space would permit I could tell some funny stories about the people I have seen. I might say here that I always keep a skep or two for "old times" sake. I have now twelve stocks in frame-hives and four in skeps. Last year my take was 460 lb. from nine hives—not bad for a town, I think—and all my colonies are showing signs of a prosperous season.

I do not know if Mr. J. M. Hooker will see this letter, but I should like to say a few words which may also interest other readers on a matter regarding skeps. I met Mr. H. last summer at Mr. Jas. Lee's place in Holborn, and our conversation turned to the management of skeps and the transferring of bees to frame-hives; also on getting supers filled on skeps. Mr. H. spoke of one method which he had heard of, viz.: Take the skep, turn it upside down, put on a sheet of queen-excluder and on top of this a frame of sections; cover all up warm. I thought I would try it, which I did, and I was surprised at the rate the bees filled the section—I suppose by bringing up the honey from the upturned skep. I very soon found it wanted another one on, which was also soon filled, and I ventured a third, but I soon found then that something was wrong, and on examination I found the crown of the upturned skep was crammed with dead bees, and some were quite mouldy from the damp, &c., so I do not think the plan would answer.

Our esteemed friend at Richmond (Mr. Will. Hampton) in his letter (4321, page 147) on feeders the other week, is a step before me with his wire-cloth. I have used the screw-cap and bottle with perforated zinc for this twelve years, but the wire is certainly better. I fear I must close or I shall tire your patience; but there, you possess plenty of that good quality or you would often cut some of our discussions short, and take no notice of the many foolish questions asked from time to time by those who might certainly think a little for themselves. Wishing every bee-keeper a prosperous season. — C. PAY, *Croydon, April* 20.

Queries and Replies.

[2629.] *Wintering Nucleus Colonies.*—Enclosed is a portion of comb with dead bees and their queen. They were a nucleus formed from my best stock last autumn. At the beginning of winter the bees covered three or four combs, but in March last they were reduced to one portion of a small seam, and died last week from, I think, loss of heat, being too small a lot to maintain it. They had stores in the hive, but none on the comb near which the bees had clustered. My attention was directed to the hive owing to other bees "robbing" it, and on examining for the cause, I found the bees dead, with sealed brood and eggs, but no larvæ unsealed. Please say if there is a trace of *B. alvei* about them or in comb. The nucleus was made from the best stock I had, one which filled five shallow-frame supers in 1899, while other stocks filled only three.—J. EVANS.

REPLY.—There is always considerable risk in wintering nucleus colonies of bees, especially when formed in autumn from a stock that has not swarmed earlier on in the season. Many of the bees will perforce be old and played out so far as regards the vitality necessary for early foraging, and in consequence they dwindle so rapidly as to cause a collapse of their powers of defence against robbers. There is no trace of disease in comb, and the pity is to see the bees starved to death from paucity of numbers, with brood recently "chilled," but otherwise in normal condition.

[2630.] *Requeening in April.*—Thanks for your prompt reply on page 139. The hive referred to had not been opened or disturbed, unless the supposed robbing I mentioned may have had the same effect. Neither have I yet been able to examine the stock since—as recommended by you—for want of suitable weather. 1. I suppose young queens raised now could not possibly be any use. Is this so? 2. On the other hand, when will the weather be warm enough to have a queen through post, please? I see none advertised so far.—JOHN MARTIN, *Ballynahinch, co. Down, April* 8.

REPLY.—1. There would certainly be some chance of queen fertilisation in the present condition of the weather. 2. A laying queen might be sent safely if posted on a warm day, properly packed, and with a couple of score bees to accompany her. But queens are not readily obtainable at this season.

[2631.] *Swarms Absconding and Stocks Dying Out.*—A friend of mine had four strong stocks of bees in the spring of last year. When I paid him a visit on the 7th of this month to have a look at the bees; the whole lot had departed, and under circumstances which puzzle me. The stocks went on all right till

the latter end of June and early July, when all four hives swarmed about a day or two between each, the whole of the four swarms taking wing and flying off across the country. In about a fortnight after the first swarm had issued the bees cleared out of one of the hives altogether, flew right away same as the swarms, and a week later they had all gone the same way. What could be the reason? The place is very healthy and plenty of forage. There was nothing left in the hives but the combs. The only place obnoxious being the smithy.—C. WALCH, *Hale, near Liverpool.*

REPLY.—It is quite beyond us to explain with any degree of certainty what has caused the general absconding of the swarms in question. We may, however, say that such wholesale "departures" are entirely unknown in apiaries where any ordinary practical knowledge of bees is brought to bear on the management.

[2632.] *Drones in March.*—Is it not a very unusual thing at the present time of the year to find drones in the hives? I have a strong stock of bees in a frame-hive. On March 29 I saw one or two drones coming out for their flight. They were quite young ones. Three or four days later I picked up a dead drone at the entrance which had evidently been killed by the bees. Does the presence of these drones denote that the queen is old?—WILLIAM HORSFALL, *Hitcham Rectory, Ipswich, April* 8.

REPLY.—See reply to Geo. Brealey in last issue (2623, page 158). The fact of the bees in question being "a strong stock" the first week leads us to infer that the colony is in a forward condition, and has a prolific queen. We should, however, advise you to settle the question by examining the combs for yourself, and thus gain an insight into the condition of brood-nest.

[2633.] *Queen Taking Flight during "Spring Cleaning."*—While going over the combs of a hive to-day (spring cleaning) I found the stock in excellent condition. There were four frames of brood, two of them more than three parts full of eggs and brood in all stages, with every evidence of a prosperous colony. I could not find the queen, after examining all the combs, but when I had replaced the frames back in the hive and was just going to put on the quilts, I noticed a few bees clustering on a quilt, and on examining them, lo, there was the queen! I was about to pick her off and put her back in the hive when she took flight. She seemed to fly heavily and clumsily, but still she was too quick for me to catch her, and went out of sight over a low hedge. I am not a very old hand at bee-keeping, but always understood that a laying queen could not, or would not fly. Will you, therefore, kindly tell me—1. Is the queen likely to have returned to the hive? 2. If not, is it too early for the bees to raise a successor, and for the latter to be fertilised? There are a lot of eggs in the hive besides brood in all stages, and I should be very much obliged if you could reply in this week's BEE JOURNAL, so that if necessary I may lose no time in getting another queen? 3. Will you also tell me where I can get full description and measurements of the "W. B. C." hive, as I should like to make one?—W. S., *Doncaster, April* 22.

REPLY.—1. If you had remained perfectly still for a few moments, leaving everything just as when the queen took wing it is quite possible, even probable, that she would return to the spot—top of frames—from which she flew off; it is far less likely that she would find the entrance if you rearranged the hive and replaced the roof. 2. There is every chance of the bees raising a successor if the queen is actually gone; and, should there be drones on the wing a fortnight later, fertilisation would be easy. Meantime, look over the combs for queen-cells; if none are seen, search for eggs, which if found would prove the safety of the old queen. 3. B.J. with the desired particulars regarding the "W. B. C." hive will be sent for 2½d. in stamps.

[2634] *Bee-forage.*—Are the following good bee-flowers and trees? (1) The red flowering (or French) currant, (2) bluebells (wild hyacinth), (3) sycamore, (4) coltsfoot, (5) Spanish chestnut tree, (6) sweet peas, (7) blackberry flowers. I have thirty trees of the flowering currant (1) within 150 yards of the hives, and bees are working them freely on fine days.—ATLAS.

REPLY.—Of the flowers and trees named:—(1) Yields a little honey and no pollen; (2) no use to bees; (3) yields honey freely, but of rather poor quality; (4) a little honey and pollen is at times got from this, but it is of no appreciable value to bees; (5) none worth speaking of; (6) same as 5; (7) the blackberry yields well of honey at times, but it blooms too late to be of much service except in adding to the bees' winter store.

[2635.] *Raising Queens in April.*—Will you please advise in your columns on the following:—I have a skep of bees placed above the frames of a modern hive separated by queen excluder—zinc. Both are full of bees and combs. If I took off skep without queen having had contact with it, would bees in skep raise a queen?—PAX VOBISCUM, *Camberley, April* 8.

REPLY.—Surely there is something wrong in the wording of the above query? We cannot imagine any one possessing the most elementary knowledge of the subject supposing that bees can raise a queen in combs from which the queen of the colony has been excluded! To remove the skep to a new location would simply cause the bees to desert it and fly back to the frame-hive left on the old stand, thus leaving the skep empty!

Echoes from the Hives.

"*Honey Cott," Weston, Leamington, April* 22.—At last! And after many cold, wet, and depressing days the weather, for the last five or six days, has been simply lovely; and amidst balmy sunshine the bees have been revelling to their heart's content, while at night they can be heard at the hive entrances "roaring" away as though it was midsummer. May it continue, and then! But we must not expect too much, only hope for the "good time." We shall then not be disappointed.—JOHN WALTON.

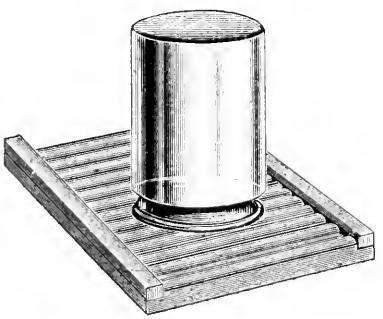
Bee Shows to Come.

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries close May 1.** Schedules from Edwin H. Young, Secretary, 12, Hanover-square, W.

July 8 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

NOVELTIES FOR 1901.

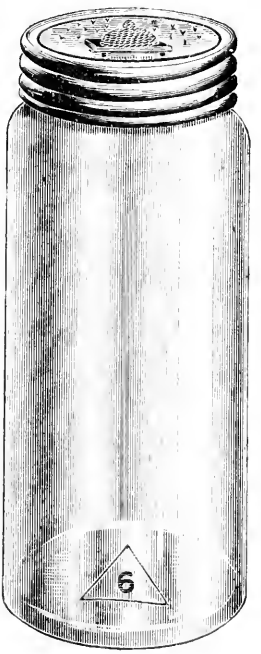
Messrs. Abbott Bros., of Southall, have sent us a sample of a "novelty" for the present year in the shape of a useful little drinking-fountain for bees' use. The accompanying cut explains itself. As seen, the stage is of wood, grooved as shown, and when



Abbott Bros'. Water Fountain for Bees.

a glass jar or a bottle, filled with water and then covered with open muslin tied over the jar mouth, is inverted on the stage the grooves fill with water and afford the bees dry standing ground while drinking. A V-shaped channel cut across the grooves (not shown in cut) allows the water to flow into all the channels without flowing over the edges.

The same firm are also inviting the attention of bee-keepers to a new make of honey-jar as a novelty for 1901.



As will be seen the shape is much the same as formerly and similar to the illustration attached. But Messrs. Abbott claim as chief points of excellence in this jar that it is made by machinery which secures the following advantages:—1. Perfectly uniform in thickness throughout. 2. No dangerous flakes of glass inside the jars, no sharp edges and no bubbles. 3. The screw-necks are perfectly accurate, round, and of exactly the same size outside, so that every metal cap fits perfectly and easily. 4. They are more costly to manufacture, but at present no extra charge will be made. 5. The peculiar "waves" in the glass give a brilliancy to the contents, especially when semi-transparent as honey, &c. Messrs. Abbott Bros. agree with us that it is not wise to be over sanguine of a new article until it has been put to every test, at the same time they confidently advise bee-keepers to procure a sample and judge for themselves. For prices or fuller details reference must be made to advertisements which will appear later or direct to the firm.

TRADE CATALOGUES RECEIVED.

As an outcome of the recent sudden outburst of brilliant sunshine and summer weather, with bees flying in thousands, and, as a correspondent says, "working for all they are worth," we expect that—like their bees—many bee-keepers will have experienced an awakening of their hitherto dormant energies. In this way, no doubt, they will realise the want of "things" which ought to be ready at hand when needed, but are not. Trade catalogues will, therefore, be in immediate request, and in order to afford an equal chance to all who have been good enough to forward their catalogues for 1901, we forego the usual individual notice of each, in order to give the names and addresses of those whose new lists are to hand. In doing this we may briefly summarise the contents by saying

that the trade catalogues for 1901 are in every way worthy of the firms whose names they respectively bear. Well illustrated, comprehensive, and full of up-to-date appliances, many of them new and practically all capable of fulfilling the various purposes for which they were designed. The names, placed alphabetically, are as follows :—

Jas. Lee & Son, 10, Silver-street, Bloomsbury, W.C. Illustrated list (40 pages) of bee-hives and appliances.

W. P. Meadows, Syston, Leicester. New catalogue of bee-hives and appliances for 1901 (60 pages.)

George Rose, head office, 50, Great Charlotte-street, Liverpool, and at Preston. Bee-appliance maker, nurseryman, and florist. Full list of bee goods, seeds, and plants.

David Raitt, Celtic Works, Blairgowrie. Illustrated price-list of bee-goods and poultry appliances. Comb-foundation a specialty.

The A. I. Root Company, Medina, Ohio, U.S.A. List of bee-keepers' supplies for 1901.

R. Steele, Wormit, Dundee. Catalogue of bee-keepers' supplies for 1901.

F. Sladen, Ripple Court Apiary, near Dover. "Sladen's Bees and Bee-keeping Appliances." Sixth edition. (2d. post-free.) Bee appliances, honey plants, and honey trees.

E. H. Taylor (successor to T. B. Blow), Welwyn, Herts. Illustrated catalogue (88 pages) of bee-keepers' supplies and poultry appliances.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. BURGESS (Shorne).—*Recipes for Bee-Food.*—We know of no better recipes for making bee-food in all its various forms than those given in Cowan's "Guide Book." If the instructions given therein are carefully attended to, and no deviation made either in materials used or the manner of making the various foods required at different times, the right article will be assured.

F. J. (Mountmellic).—*Allowing Bees to Transfer themselves to Frame-hives.*—1. Before setting the skep on top-bars we fit up the frame-hive complete, with its full complement of frames all filled with full sheets of foundation. This done, and the bees in skep strong in numbers and needing room for breeding, the skep is placed overhead, snugly packed all round, and plenty of warm quilts over the frames of lower hive. This done, do not disturb the stock at all till the bees are plainly seen to be increasing in numbers rapidly. It will then be time enough to lift the skep and see how all is going on below. To be constantly disturbing the stock by adding to the frames as proposed will only retard successful transferring. 2. Thick boiler-felt, as sample, makes good quilts for hives, and is sent out as such by nearly all dealers. 3. If very thin foundation is used we prefer full sheets in sections to "starters" only.

R. STRATTON (Berks). — *Foundation for Shallow-Frames.*—It is a matter of preference whether "worker-cell" or "drone-cell" foundation is used for shallow-frames in surplus-chambers. Our own practice is to use the ordinary foundation same as in brood-chambers. We are glad to hear your "bees are breeding now for all they are worth," and if the information gained from our paper has been "very helpful" as stated, we are more than repaid.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

ORDERS WANTED for natural EARLY SWARMS. Miss COOKE, Litcham, Swaffham, Norfolk. F 21

BEES.—FOR SALE, one strong Stock on 10 frames and two healthy Skeps of Bees. Miss MARGESSON, Findon, Worthing. F 18

SWARMS, headed by Imported Carniolan, Italian, or home-bred Queens. E. WOODHAM, Clavering, Newport, Essex. F 17

ENGLISH and ITALIAN BEES FOR SALE, in frame-hives. T. HILL, Scotlands, Cannock-road, Wolverhampton F 27

CANOE FOR SALE in good condition, 55s., or would exchange for bees and appliances. FORD, Wharf House, Leek, Staffs. F 23

FOR SALE, 40 1-lb. screw-cap bottles pure EXTRACTED HONEY. MARSH, East Wick, Marlborough. F 16

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

36 LB. of EXTRACTED HONEY (1st quality), in 1-lb. screw-cap bottles, neatly labelled, 8s. 6d. doz. Cash with order or deposit. GARDINER junior, Daneway, Cirencester. F 28

12 STRONG healthy STOCKS of BEES, in good bar-frame hives, 20s. each, or £10 10s. the lot. Mrs. BALLARD, The Reddings, Churchdown, Gloucester. F 24

25TH YEAR.—STOCKS, wired frames, three, 12s. 6d.; six, 16s.; eight, 18s. Skeps, 10s. 6d., 12s. 6d. Swarms booked. Packages free. ALSFORD, Expert, Blandford. F 25

BEES FOR SALE.—Stocks on six to ten combs, headed by young queens. Prices varying according to strength of stock; with or without hives. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

TWO more 1900 QUEENS FOR SALE, 4s. 6d. each. My Catalogue of Bee Appliances, Queens, and Poultry, post free. Buff Orpington and White Leghorn Eggs, 2s. 6d. sitting. Approval. SPEARMAN, Colesbourne, Cheltenham. F 19

GRANULATED HONEY, VERY FINE QUALITY, in 1-lb. screw-capped jars, 10s. dozen; in 3-lb. tie-over jars, 8½d. lb.; in tins reduced according to quantity, 7, 14, or 28 lbs. Sample 3d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

WANTED.—Convenient HOUSE, with about six acres of land, good honey district, and near market town. Should not object to already existing apiary. West or south preferred. Address, "FOUNDATION," *Bee Journal* Office F 15

Editorial, Notices, &c.

OXFORDSHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the Oxfordshire Bee-Keepers' Association was held on Saturday, March 23, at Oxford. Mr. G. H. Morrell, M.P., Vice-President, occupied the chair, and there were also present Mrs. Herbert Morrell (Vice-President), the Rev. R. Hutchinson, Miss Hope Campbell, Miss Nalder, Messrs. A. Humphries, R. Allen, G. O. E. Herbert, W. Slater, J. Smart, H. W. M. Turner (Hon. Secretary and Treasurer), and others.

The Chairman, after formally opening the proceedings, read the report for the year, from which we gather that, in conjunction with Mr. F. Elford, organising secretary of the County Council, lectures were arranged for in various parts of the county. The committee were glad to have secured the hearty co-operation of the County Council in carrying out their work, and hoped the present arrangement would continue.

The Chairman also pointed to the steady growth of the Association, which now numbered nearly 200 members.

The report was adopted, as was also the balance-sheet.

The election of officers then took place, her Grace the Duchess of Marlborough again becoming President for the year.

The Vice-Presidents were re-elected, as were also the hon. auditors, experts, and committee, which latter body now comprises the following gentlemen : — The Rev. R. Hutchinson, Messrs. E. Goddard, G. Jordan, A. Humphries, J. Salmon, W. Beeson, and O. Tite. Mr. H. M. Turner was unanimously re-elected Hon. Secretary and Treasurer.

The meeting closed with a vote of thanks to the Chairman.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

A special meeting of the Committee of the I.B.K.A. was held on April 13, in Dr. Traill's Rooms, Trinity College, to confer with the Department of Agriculture as to the lines on which common action might be taken in the promotion of the industry of bee-keeping.

Rev. J. G. Digges in the chair; also present H. Chenevix, J.P. (Vice-President), Messrs. Abbott, Delap, J.P., Doherty, Gillies, and M. H. Read (Hon. Secretary). From the Department of Agriculture—Professor Campbell, and Mr. W. P. Coyne, Superintendent of the Statistics and Intelligence Branch.

Professor Campbell explained that the scheme submitted to the Department last November could not be accepted by the Department, not being in accordance with the Act of Parliament. The whole matter having been fully discussed, the Committee undertook to formulate a scheme on the lines indicated by Professor Campbell.

A meeting of the sub-committee appointed to arrange for the publication of an Irish paper to represent the industry was afterwards held, Rev. J. G. Digges in the chair ; also present Messrs. Abbott, Gillies, and Read. An estimate of the cost of production and the probable receipts was gone into, and it was resolved to publish a monthly journal at 1d., its name to be *The Irish Bee Journal*, relying on the support of those interested in the industry. The Rev. J. G. Digges was appointed editor, and it was resolved that every effort should be made to publish the first number on May 1, 1901.

A meeting of the Committee was held on the 25th at Dr. Traill's rooms, Dr. Traill, and afterwards H. Chenevix, J.P., Vice-Presidents, in the chair. Also present Messrs. Abbott, Drought, Gillies, Watson, and Mr. H. Read, Hon. Sec. A scheme for the promotion of the industry of bee-keeping in co-operation with the Agricultural Department was adopted, and ordered to be forwarded to the Department for its approval.

The Hon. Sec. reported that the exhibits of hives and appliances exhibited at the Belfast Show by Messrs. Abbott Bros. and Messrs. Edmondson Bros. were most interesting, and fully sustained the reputation of the firms. Messrs. Edmondson Bros. were awarded the first prize (the silver medal of the Association), and Messrs. Abbott Bros., Dublin, second prize (bronze medal). Manipulations with live bees and lectures were given in the bee tent during the Show by the Rev. A. H. Delap, Mr. Abbott, and Mr. Read, to interested audiences ; and it is trusted that the Show will give a great impetus to the industry in the North-East.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4341.] Here, in West Berks, we have had a fortnight of fine weather with some cold east and north-east winds. The brilliant sunshine has, however, caused a rapid unfolding of the blossoms of the wild cherry, and also of the stone-fruit trees of the garden and

orchard. The gooseberries and currants, too, are providing their quota of bee-forage, and the fields are now becoming dotted with the golden blossom of the dandelion; indeed, many other sources of income are also promising to follow in quick rotation, the sycamore, beech, and horse chestnuts all expanding their buds, and in warm, sheltered situations are already in leaf. These indications that our bee-season has commenced should rouse us bee-keepers up to a sense of duty to the craft, and last, though not least, to the bees. See that there is now no check in the onward march of the condition of our colonies from any remissness or neglect on our part. Should the weather become wet and cold, attend to the brood-nests by seeing that they are carefully wrapped; also that a constant supply of food is given to meet the requirements of the increasing family of bees. If natural forage is good and weather warm, Nature will supply every want in such hives as are strong or fairly so, but with the weaker ones a little "coddling" now will probably bring them into supering condition later on, when the queen, if old, should be superseded by a 1901 queen from a good strain.

Drone-rearing.—The swarming season will soon be with us again, and I would counsel every bee-keeper who aims at improving his stock to insert in the centre of his strong colonies a frame containing a half or a two-thirds sheet of foundation, thus giving an opportunity for the bees to build a few rows of natural drone-cells, which will produce fine, robust sires for the future race of bees. Established stocks will, nineteen times out of twenty, build drone-comb, especially those in which full sheets have been given year after year.

Wax-rendering.—The Solar wax-extractor is a useful appliance, especially for rendering into wax new, or comparatively new, combs; but with old brood-combs, the cells of which are partially chocked up with numerous cocoons, the wax is not so easily extracted, and with such we have therefore to use the old-fashioned boiling water, the strainer-bag, and pressure in order to get the wax thoroughly out of the débris. The modern, or "Gerster," wax-extractor, as made in this country, may meet the requirements of small apiaries, but with many old combs to deal with it would not only be a tedious job, but would also fill the house with an effluvia very obnoxious—at least, to *my* olfactory nerves. I think Mr. Geo. Wells—considering the few stocks he keeps—makes the largest cake of wax, year after year, of any one I know of. Perhaps he will give us his *modus operandi* when he can spare time.

Re-queening in April.—I see a reference is made to re-queening in April, on page 167, in reply to a query. In my opinion, however, re-queening in that month is not calculated to benefit any one, either the purchaser or the dealer who supplies the queens. The number of bees in the hive must be small and aged, and these old bees will make very poor nurses for the brood the newly-introduced queen will provide for them to care for, while the size of the brood-nest will continue small for want of nurses, and by the time the young bees hatch out the colony will probably be in a worse condition than it was at the introduction of the queen a month before. The dealer may have sent a fine queen of a good strain, yet where is the chance of distinguishing herself or of enhancing the credit and renown of the breeder? The best plan is to unite any stocks that are queenless in March and April to some other stock, and not risk disappointment in trying to do the impossible by building up queenless colonies of old bees into good useful stocks in time for the clover bloom.—W. WOODLEY, *Beedon, Newbury.*

[We have, of course, no objection to our friend, Mr. Woodley, holding a different opinion from ourselves in regard to replies we may consider fit and good to queries, but, unfortunately, in the above he entirely bases *his* reply on what appears on page 167, without troubling to read up the whole case by referring to the former query (2168, page 139). By so doing he would, we think, have left our reply as given and "uncorrected."—EDS.]

RENDERING OLD COMBS.

BEE-ESCAPES.

[4342.] Last week I had a call from an old bee-keeper, and as the cause of his visit effects a good many bee keepers as well as himself, I propose to give the two chief objects of his interview. First, then, he said, "I have been told you obtain a deal more wax from your combs than most of us can get. How do you account for it?" "Well," I replied, "your question seems to have reference to old combs, and my opinion is that wax from old combs cannot be extracted by boiling or steaming, or, at least, only a very small portion of it. A large quantity of the wax seems to be absorbed or held in by the pollen or cocoons in the old combs, and can only be got out by force; that is through pressure in a powerful press. My plan of dealing with this difficulty is as follows: The old combs are immersed in soft water for three or four days. I then select a day for rendering the combs into wax. I first obtain a loan of the washing-copper from 'the wife.' This secured, I fill it three-parts full of soft water, and light the fire. I next break up the old combs, and tie them in parcels in cheese-straining cloth, leaving the corners loose to take hold of. When boiling, I put four or five parcels into the copper and allow them to boil until all wax is melted. I then draw up my honey-press close to the copper and set a large bowl under the 'press.' When all is ready I take a stick, bring one of the parcels to the top of copper so that I can get hold of

the corner left for the purpose, drop it into the press, and in a moment force down the screw. The wax (and water) is then in the bowl under the press; this is repeated until the job is finished. It is said that old combs contain very little wax, but this is not my experience; the wax is there and only requires proper pressure to get it all out. My 'take' of wax for 1900 was 30 lb., sold for £2 5s. The foundation used in 1900 (23 lb.) cost me £2 9s. 4d. Thus, you see, the wax sold nearly pays my foundation bill."

Bee-Escapes.—"Now," says my friend, "I am going to give you a 'poser;' something that I cannot understand! You said in the B.B.J., when removing additional brood-chambers, you clear them out in the ordinary way, but you will always have a few drones among those additional brood-combs; do they not block up the escapes?" My reply was, "Yes; I have omitted to name my 'escapes,' and I am glad you asked this question, as it will effect all who may try my method of working. Briefly, then, there are always a few drones in those additional brood-chambers, but I have no such thing as my 'bee-escapes' being blocked up with them. My 'escapes' are home-made and admit the passage of drones as well as workers, so you will therefore see that mine are not what you would call the ordinary super-clearers." After inspection of the appliances my friend expressed himself highly satisfied, and I trust these small items may interest others who may not get the amount of wax from old combs that they should do, and also those who find any trouble in clearing any surplus chambers containing drone bees.—J. RYMER, *Levisham, Yorks, April* 26.

A CURIOUS BEE STORY.

[4343.] Our busy little friend the bee has been accredited with many wonderful feats both intellectual and otherwise, but I think the following "story" taken from the current number of the *Strand Magazine* somewhat extraordinary, and that it might interest some of our friends.

I must confess to not a little incredulity myself in regard to a few of the statements made, but probably some of your readers may be able to enlighten us as to its probability or otherwise. Of course the "story" comes "from America" so I give it in its entirety:—

"It appears that while repairing his sail-boat in the spring he (an admirer of the *Strand*) noticed a hole bored in the mast, and on opening it found this nest of bees. The mother-bee had bored a tunnel about 8 in. in length, boring both forward and back, making the entrance in the middle of the tunnel. She then laid four eggs, walling up each within a space by a partition formed of the sawdust made in boring the tunnel. This partition was a thin but a very firm and tough membrane. When found three of the eggs had developed into bees, perfectly formed, but white; the fourth was still in pupa form, and the mother-bee was lying outside the last wall, dead.

"Shortly the two oldest bees died, the third and fourth, the pupa, developed into bees; they laid on their backs and slowly changed to brown, and finally black, beautiful bees. The only sign of life noticeable for days was a vibratory oscillation sideways when the stick was moved or shaken. Each compartment had a store of little black seed in it when found. When the remaining two bees were fully grown they were fed with a little sugar and water, which they ate greedily. They grew strong enough to walk, and finally one day were put out in the fresh air, and on learning the strength of their wings flew away.

"Several puzzling questions were suggested during these interesting developments. Does the mother-bee (I like the expression) always die and block the entrance to her prospective family's home?

"Again, how does the oldest bee, which is furthest from the entrance, make its way out, and how does this wonderful mother-bee make her partition so delicate and yet so strong?"

Might I further supplement these "puzzling questions" by asking how this wonderful mother-bee was enabled to bore a hole 8 in. long in a boat's mast?—R. AITCHISON, *Corbridge of Lyne, April* 15.

[We forwarded the above communication to our esteemed contributor, Mr. Sladen, whose knowledge of the subject makes his views of value, and we have received from him the following reply.– EDS.]

The above interesting bee-story has evidently been written by one who is not very well acquainted with the life-history of the wild bee, but, taking this into consideration, it has been told in an unusually clear and correct manner.

The bees mentioned apparently belong to the genus *Xylocopa* which occurs in all the warmer parts of the world, or to one of the American genera allied to it. These bees do not occur in Britain; but in France and in most other Continental countries they are very common. They are popularly called "carpenter bees" on account of their wood-boring propensities. It is the female or mother-bee that forms the cells so graphically described in the above account, and she does this chiefly with the aid of her powerful jaws. The mother-bee seldom or never dies in the nest she has formed, and I am inclined to suppose from the description given that the bee found lying dead "outside the last wall" was in reality not the mother-bee but one of the brood which was in a more mature stage than the rest.

In the case of a British wild bee named *Osmia aurulenta*, which is not distantly related to *Xylocopa*, the cells are formed one

outside the other in the tube of a deserted snail-shell, and, as with the *Xylocopa* mentioned above, the oldest bee being farthest from the mouth of the shell is unable to escape until all the others blocking its way have emerged. Under ordinary conditions this bee would attain maturity before the rest, and in this special case, being unable to make good its escape, it would probably perish, had not Nature reversed one of its well-nigh universal laws by causing the younger bees at the mouth of the shell to develop first, the older ones developing after the younger have escaped.

In the case of *Osmia aurulenta* a further development of this interesting "freak of nature" has been observed.

It is a general rule among the wild bees and many other insects that eggs which are destined to produce males are laid in advance of those that are to develop into females; and this is because by universal law the males are developed first and the females afterwards. In the case of the *Osmias* imprisoned in the snail-shell, Nature's general rule is at variance with her universal law, and in consequence the general rule is reversed, with the result that a highly interesting state of things is brought about—the female eggs are laid first at the end of the whorl, and the male eggs are laid afterwards outside these, so that the males may emerge first.—F. W. L. Sladen, *Ripple Court, Dover.*

HAZEL CATKINS AND BEES.

[4344.] In B.B.J. of April 4, Mr. A. W. Salmon (on page 135) states that "the hazel belongs to the order *Hamamelidaceæ*." Is he not confusing the witch hazel with the common hazel (filbert or wood nut)? The witch hazel belongs to the order mentioned above, but the common hazel—which produces the male catkins supposed to be visited by the bees during mild weather in spring—belongs to the order *Corylaceæ*, as the following description (from "Nicholson's Dictionary") will verify:—Corylus (from korys a hood, or helmet, in reference to the calyx covering the nut). Hazel; cobnut. Ord. Corylaceæ. Low trees and large shrubs; deciduous. Male flowers whitish, in cylindrical catkins; bracts sessile, imbricate. Female flowers red, in a bud-like catkin which is developed into a branchlet; leaves, simple, alternate, exstipulate.—L. Hopkins, *Nantlos Lodge, Aberystwyth.*

(*Correspondence continued on page* 176.

DISINFECTING HIVES.

[A gentleman in the North of England who is interested in bee-keeping and has contributed an article on the subject to a local paper, forwards the following letter received by him, and asks us to oblige him by replying to it.—Eds.]

"Dear Sir,—Having noticed your interesting letter and kind offer in the *City News*, I beg to apply for advice. Some months ago I bought at our vicar's sale two large frame hives, and commenced to prepare them for future occupants. It was soon noised abroad that 't' schulemester had bowt parson's hives,' and I was informed he had had foul brood, and 'I mun mek hives inter chicken coops.' I determined, however, to try my hand at curing the infection, and filled the washhouse boiler with a boiling mixture of water, soap, Condy's, and carbolic acid. Into this I plunged every portion of the hives. After a week's exposure to sun and wind, I next painted the outsides and sprayed the insides with Sanitas. I now purpose to follow with salycylic acid, and lastly to fumigate with sulphur. My neighbouring bee-keepers are constantly throwing out hints about the danger of introducting foul brood into our locality. Will my efforts to eradicate the bacteria be successful? What else shall I try? Can swarms be obtained seasoned or salted against foul brood? When should I obtain a swarm, and at what price? Any further advice will be welcomed."

Reply.—The measures taken to disinfect the hives will more than suffice to remove all risk of infection from anything but the *spores* of foul-brood; the vitality of the latter is, however, so difficult to destroy completely that we suggest making "assurance doubly sure" by scorching the *insides* of the hives with a painter's spirit-lamp. This would effectually put an end to all risk. A good, but less effectual, remedy is to give the insides of body-boxes two coats of oil paint.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In Mr. Jeffrey we have another welcome addition to the list of readers who add on to their chief occupation as gardeners a love of bees and bee-keeping. We have come across not a few instances in our past experience where gentlemen favourably disposed to keeping a few hives in their gardens have had their wishes so persistently opposed by gardeners as to make them give up the idea. In view of this, we are more than pleased to insert the apiary-picture on opposite page, and add a line to urge gardeners to become bee-keepers. By so doing they add to their usefulness and value. Why should not the employer derive equal pleasure from seeing a comb of delicious honey fresh from his own hives to a bouquet of flowers from the same garden? We trust gardeners will take a hint from the following "notes":—

"Being a gardener by occupation, and having my cottage garden to cultivate during evenings as well as manage the bees, I had not much time to spare for the latter beyond giving ordinary attention. I have, however, found

them very profitable, and have had no trouble in disposing of the honey and wax taken from my hives. Commencing with one frame-hive, I eventually increased to thirty stocks, a few being skeps, the bees of which, with the exception of two skeps—kept for swarming—I transferred to frame-hives. I have been able to dispose of frame-hives to five bee-keepers who had not previously been acquainted with any hives other than skeps, and all expressed their satisfaction with the new method. I gave to each a few hints such as I had found to be generally useful, and such also as I had myself gladly received from friends when starting an apiary. Two of the hives seen are my own manufacture.

"I exhibited honey at the village horticultural show for several successive years, and was a prize-winner each time, also at Beddington last August. The hive on the left of the picture, as may be seen, has a lift (my own making) which I work with shallow-frames, and find them very profitable. The double hive in centre of the photo had, when I purchased it, the doorways in the centre, but on noticing that the bees seemed confused when returning to their home, I removed the doors, putting one at each end, which proved a better arrangement. I am not in favour of double hives, having secured better results by keeping each stock by itself. I may here say that I find it a good plan to keep the hives at least 6 ft. apart—I say this because by observing the bees as they return loaded, it will be seen that some confusion often follows from their not knowing exactly where to enter the hives be placed closer together than two yards. I also find that good honey results are largely attributable to strict attention to the cleanliness of the hives inside, and to all accessories. Regularly every spring I thoroughly clean all floor-boards, scrape the frames, &c., and, lastly, paint the hives outside, which, besides preserving the wood, adds much to the neatness of the garden. As conducive to the prevention of swarming, I at the proper time place two frames of foundation in the centre of each hive, finding that when the brood-chamber gets crowded with young bees the heat is thereby lessened.

"At one time on coming in contact with an 'old-style' bee-keeper, I inquired why he did not take to wooden hives. He replied, 'They arn't no good—'yer carn't beat the skips.' After a little conversation he accepted my offer to drive five skeps for him, and I accordingly started the task of 'driving' another evening. Four lots were successfully dealt with, but the fifth would not leave the hive, and appeared to be nearly all drones. I had a bee-recruit with me (an early lesson for him), who got a few stings, and wanted me to give up the game, but I persevered, and as a last resource, gave the skep a thump on the grass, when out dropped all the bees, combs, and all! I carefully brushed the bees from the combs and gathered the latter into a pan, without being any the worse for the adventure. The owner was very pleased on getting his honey without killing the bees, and offered me what bees I cared to have, so I accepted

MR HORACE J. JEFFREY'S APIARY, SOUTH GODSTONE, SURREY.

three lots and put them in a home-made hive, giving them two frames with honey and four empty ones, and about 15 lb. of syrup, and they well repaid me for any trouble I had.

"My young friend had the remaining two lots, which we dusted with flour and united to a weak stock of his. They are now doing well together. At an early opportunity I consulted 'Modern Bee-keeping' as to the reason of so many drones being in the skep, and found that their presence indicated a queenless stock. I find it advantageous to leave plenty of honey in the hives for winter, which item is very apt to be neglected by those who are too eager to take as much honey from their bees as possible, and the latter must thereby suffer. Those who do not thoroughly interest themselves in the habits of the busy bees are likely to ignore the fact that they require gentleness, care, and attention. Such bee-keepers as fail in these items are those who do not prove successful in the craft.

"I think there is nothing in Nature of more interest to an onlooker, or a greater example to ourselves in our daily active life than the short and busy existence of that industrious little labourer—the honey bee.

"P.S.—The photo was taken with my own camera, and developed by myself at Stilehurst, Capel, Dorking."

CORRESPONDENCE.

(*Continued from page* 174.)

ANCIENT BEE-BOOKS.

"A New Discovery of an Excellent Method of Bee-houses and Colonies to free the Owners from the great charge and trouble that attends the Swarming of Bees, and deliver the Bees from the evil reward of Ruine for the benefit they brought their Masters; advantaging their Owners many-fold above whatever any method heretofore praicte'd doth. Experienced seven years by John Gedde, Gent. Inventor; and approved by the Royal Society at Gresham-Colledge.

"London, printed for the Author, and sold by D. Newman at the King's Armes in the Poultry; and Ship and Anchor at the Bridg-foot on Southwark-side. 1675."

[4345.] Those who may be following my review of ancient bee literature should note that the "Theatre of Politicall Flying Insects," by Samuel Purchas (the younger), was published two years after Hartlib's "Reformed Commonwealth," last noticed, and eighteen before the book now to be considered. Purchas was the last of the skeppists. For a description of his notable book see Mr. Headley's papers (4164 and 4172) last volume B.B.J.

Gedde's book begins with an "Advertisement," that he and his partners had obtained a fourteen years' Royal Patent for "exercising and enjoying the new Art and Invention for the Improvement of Bees" and that it cannot be made, used, &c., without their special licence. He goes on to explain, that having tried several forms he at last found one that answered his expectation. While waiting for further experience, he was "advertised by an ingenious Gentleman" that the Royal Society had published in their "Transactions" for July 21, 1673, a description of one of his boxes "which they had gotten from Sir Robert Murray, and he from Sir Wm. Thompson who had gotten it from me, together with a written description of its parts and use," and that they had approved the same as "the best form yet invented." Hence the present book, and the patent.

On the strength of this, Gedde has gone down to posterity as the inventor of the Octagon Transparent Hive, which held the field for a full hundred years after. Warder, 1726, calls him "the first inventor of Bee-boxes and Houses"; Thorley, White, and others have followed to the same effect. But a study of Gedde's description of his hive and of that in the R. S. "Transactions," together with the plates that accompany each, clearly shows that the patented hive is but a combination of Dr. Brown's and Mr. Mewe's hives taken from Hartlib. Brown's iron handles, and his framework for combs, slightly modified, are added to Mewe's octagonal bodies; the number of doors and windows is doubled; and an oblong slip, working in grooves and shod with "Lattin or Iron well sharpened," so as to cut the combs between the boxes, takes the place of Mewe's revolving shutter.

Gedde's patent was probably obtained in conjunction with Moses Rusden, the King's bee-master, who made and sold the hive, and writes as if he was a partner. All doubt as to the hive's origin is cleared up in Rusden's book, published in 1679. In a humble "Epistle Dedicatory" to the Royal Society we find it stated, with what must have seemed to Gedde a sad want of reticence, that "the transparent hives were first shewed to us by Dr. Wilkins, late Bishop of Chester, a most eminent member of your Society." Dr. Wilkins was their first secretary, and it is a great pity that he died some few months before Sir Wm. Thompson sent his hive for inspection to Gresham College. In a careful search of the "Transactions" of the Society and of the record of its meetings I could find no form of approval nor any mention of a hive except in the succeeding Secretary's letter introducing Sir Wm. Thompson's hive in the "Transaction" quoted above. He speaks of it as "used in Scotland with good success" refers to Hartlib, and "thinks the Reader will meet with several improvements of those attempts that were made before." When some day a man of sufficient leisure, means, and energy shall be found to write the Universal History of Bee-Keeping, it is to be hoped that he will not fail to investigate this matter for himself, and to bestow the honours of invention where they are really due.

The extracts given below will show that Gedde worked his hives in masterly fashion on the nadiring system. The bee-house was to be furnished in spring "when Bees are at the swarming and looking out for a new

Lodging." You were to place a skep properly on the top of a box, and "when you find the first box full of Work and Bees, except it be very late in the year, take another box of the Colony, and having prepared it as the former, lift up the first box with the Hive upon it, by a Pully fastened to the top of the house, or by hand, and put the second box under the first box and hive. So leave the bees to work down into the second box till they have filled it also, which is not to be expected the first summer, except the summer be very advantageous. Then at the usual time of the year for taking of Bees, take off the old Hive for use, which will be filled with work but no Bees, for they will be working in the lowest box." If all went well there was "no doubt but two boxes may be taken off one Colony, being once well stockt with Bees."

After removing the top box "unscrew the pinns and let out the inner frame with the whole Fabrick, in which there will be no Bees." You were to take "what could well be spar'd of Honey and Wax," and put the box on again, "as a relief to the Bees, in case the lowest hold not out to be Provision enough for the winter. The provision made, you may even in summer time take off the upper Box of Honey and put in an empty box under the lowest. . . . All the vigorous Bees are preserved alive, to repeat their industry for their masters' advantage."

Gedde admits that "the charge of £5 or £6 in setting them up at first does bring a present inconveniency upon the Owner," but the ample profit does abundantly overbalance that present inconveniency," and you must "deduct the charge of a person for three months in Hay and Corn harvest" (watching for swarms) "which can't be worth less than forty shillings besides trouble and payne."

In 1721 a Mr. Nourse, instructed by certain booksellers who supplied him with MS. notes left behind him by Gedde, published "The English Apiary or the Compleat Bee-Master. . . . being a Collection and Improvement of what has been written by all Authors relating to this Subject, as well Antient as Modern." With this was reprinted the book we have been considering, all under Gedde's name. Mr. Headley (4181, last vol. B.B.J.) is surprised at the virulence of Warder's criticism of this work. As far as Mr. Nourse's share goes the criticism was fairly well deserved. Its virulence is best explained by the fact that Warder's own hives are, with some slight alterations—such as a single door, two crossed sticks only in place of the more elaborate comb-frames, and a ventilator which would probably be propolised—a close copy of Gedde's, though the Doctor would fain have had it forgotten. He was a peppery man (see his "Vindication," 1718), and Mr. Nourse's unfortunate remark :—"It must be confessed that Mr. Warder has largely transcribed from others" was quite enough to upset him.—SOUTH DEVON ENTHUSIAST.

Queries and Replies.

[2636.] *Bees in Double Hives.*—For several years I have successfully wintered two stocks of bees in a hive containing twelve frames, with perforated dummy in centre, and the bees entering due east and west. Both compartments last autumn contained about the same amount of bees and food. I always find, however, that the bees on the east side are a little stronger in the spring than those on the west; but this year I was not so successful. I find that on the west side there only remains about 100 bees with the queen, and she has laid about thirty or forty eggs. I do not think that any of the bees have joined those on the east side, because I found an unusual quantity of dead bees from some unknown cause. But on the east side I find three frames full of brood in all stages and the hive well packed with bees. Do you think it would be wise to turn the weak side to east, and thus catch the flying bees of the strong stock? Or would it, by so doing, weaken the latter to such an extent that there would not be enough bees to cover the brood, which would thus be likely to become "chilled"? None of my other nine stocks require a new queen, so I could make no use of the one now heading the weak lot of bees. What is the best thing to do?—W. HOLMES, *Coventry, April* 22.

REPLY.—A hundred worker-bees with queen are useless, either of themselves or for uniting. We therefore strongly urge you not to waste time and bees in the endeavour to utilise the weak lot. Probably the queen of the latter may be at fault, so we should regard her as of no value.

[2637.] *Repairing Misshapen Combs.*—Having always a desire to keep bees, and last year moving to a convenient quarter for so doing, I purchased four stocks in bar-framed hives, which to reach me had to travel by rail. I purchased them during December last, and on arrival at my place could hear by the bees buzzing that they were alive in each hive. I therefore considered them safe. On examining them last month for the first time I found that I could not get the combs out for inspection owing to their being broken and knocked about so much; in some the bottom-bar of frames was broken off altogether. My intention was to contract the frames by closing up with division-board, &c., as recommended in "Cowan's Guide Book" (which I have purchased) for this time of year, and BEE JOURNAL which I read. I managed to lift some of the frames out of one of the hives, and not being experienced enough to judge properly I thought the cells were empty. Later on, however, when examining, I found the comb to be practically full of eggs and larvæ. As I considered the unsealed brood would be chilled

by the exposure I did not return it to the hive. I am acquainting you with this to let you see that I am unable to take frames out and close up as directed in "Guide Book," owing to the dilapidated condition. I am feeding the bees with syrup in regulating bottles. What I should be very glad to know is, how to proceed under the circumstances :— 1. Must I insert full frames of foundation in lieu of the one I took from, and, if so, how often? 2. If I insert foundation will the bees draw it out crooked to correspond with the present misshapen combs? 3. Shall I leave the others as they are for the present? 4. How can I proceed to get straight combs built in my hives by the quickest and best method? The bees seem to be very busy on fine days taking in pollen, and some are bringing out large pieces of wax. Is this capping or what? Any advice will be greatly appreciated?—BROCK, *Wallingford.*

REPLY.—1. We infer that you closed up the frames containing brood after removing the comb referred to, and that some of the frames of comb have been got out, as stated later on. This being so, you might replace any outside combs by frames of foundation, and thus get straight combs built in lieu of the crooked ones. It is, however, of no use putting frames of foundation next to crooked combs, as the irregularities in the latter will be repeated in the newly-built ones. On the other hand, do not do any brood-spreading at this season by inserting sheets of foundation in centre of brood-nest. 2. This question is answered above. 3. Yes. 4. Only by starting a new comb between two straight old ones, or by taking away about three old combs from outside of those containing brood, and inserting full sheets of foundation in lieu of those removed.

[2638.] *Working Two Stocks from one Entrance.*—I have a double hive occupied with two stocks of bees (swarms last summer). This hive has two entrances on the side I am using now, and on the opposite side there is one entrance only (in centre). Both stocks are doing well, each lot being on six frames at the present time. The two compartments of the hive each holds about eighteen or twenty frames. I think of spreading the brood-nest gradually in both stocks as soon as weather permits. Should I succeed in getting the hive full of bees I thought of putting queen-excluder zinc in centre, spraying bees with scent, then putting large rack of sections on, and turning the hive round so that all bees went in and out in centre entrance. 1. Would this be the right thing to do? 2. Other years I have only worked one rack of sections at a time; do you consider it the best plan to have two or three racks on, and raised one above the other when full, instead of taking the honey off as soon as sealed? I have always removed the honey in sections as soon as filled, and replaced with empty ones.—J. H., *Norwich, April* 17.

REPLY.—1. We should for preference allow the bees to work in a surplus-chamber common to both from the two entrances, as at present. It would cause a good deal of upset to do away with the back entrance, and compel the bees to find out the new "front door." Nor do we see any appreciable advantage in the change so long as the bees work well from both entrances at present. 2. If the bees of two colonies work in unison we should certainly use several racks of sections at one time if honey is coming in well. The labour is spread out over many more workers, so to speak, by giving a very large colony room enough.

[2639.] *Dead Drones cast out: Open Air Feeding.*—A few days ago I noticed one of my hives casting out what I took to be drones, a very unusual thing at this season. All I saw were dead, and I send you a few. I shall be obliged if you would examine them and tell me if they are drones; if they are young, and how you account for them being killed and cast out? I examined the brood-nest and found young brood in all stages, spread over a few combs, but there was no appearance of drone brood or of drones. The queen was easily found, and looked young and in fine condition. I have a goodly number of hives, but I saw no appearance of drones at any of them. I feed the bees outside, and have all my hives in splendid condition. I dare say you do not approve of feeding outside. Many bee-keepers in this part of the country, however, do so; in fact, one man who has nearly a hundred hives practices open-air feeding, and commends the system. —C. G., *Stonehaven, April* 26.

REPLY.—The dead drones sent are clearly a stray lot that have been hiding away in some out of the way part of the hive since the usual time of "drone killing" at the end of last season. With regard to "open-air" or outside feeding, it is useful enough at times in the hands of competent bee-men, but otherwise it leads to all sorts of confusion—and worse—in the apiary.

[2640.] *Transferring from Skeps to Frame-Hives.*—I again seek your kind assistance, through the columns of the BEE JOURNAL, with regard to one of my hives, on the top bars of which I placed a skep of bees for self-transferring, now about a year ago. All through last summer I could not get the bees to go down, brood being constantly seen in the skep. Just before the honey flow, I placed a rack of sections between the skep and frames, and which eventually I took off three-parts filled, replacing the skep and allowing it to remain the winter. Upon examination *now* I find the skep full of brood and some stores, and the hive on the whole fairly strong. I do not want to sacrifice the brood in the skep, and yet I want to *remove* the skep entirely at the proper time for substituting a crate or two of shallow frames. 1. Will it be best to drive the skep

and find the queen and place her upon the frames at the bottom, then put on excluder-zinc and replace the skep to allow all brood to hatch out.? Last year I must have placed excluder on before being sure the queen had gone below. 2. If you advise driving, say when it should be done? 3. Or if you know of a better method than driving? the skep, being an old contracted one, is unsuitable and insufficient for surplus chamber. 4. What is the lowest outside temperature considered safe for examining any brood combs? 5. To ensure non-swarming, what should now be done with a hive, the frames (nearly the whole) of which are filled both sides with brood, and just enough stores to last them? There is no more room for placing empty combs in, unless some of the others are removed. I have an empty hive if they can so be utilised. Thanking you in anticipation of reply in next issue. —W. H. Buck, *Dawley, Salop.* P.S.—All my stocks have wintered safely, though one being found queenless, which I have successfully united.

Reply.—1. The risk attending your proposed plan of removing the queen to frame-hive below and keeping her there, lies in the probable chance of the poor queen being deserted by the bees—owing to their attachment to the brood in skep—and perish of cold and hunger. This often happens in practising the method referred to. 2. We advise letting well alone, and trusting to the bees needing an extension of their brood-chamber this year. 3 If brood is found below, then set on the excluder by all means, but not otherwise. In the latter case the skep may be removed when brood has hatched out. 4. A temperature of about 65 deg. Fahr., with no cold wind, is suitable for manipulation, but when bees are working freely in sunshine it is quite safe. 5. You might give a box of shallow-frames either above or below body-box to increase the capacity of breeding space.

BEE-KEEPING IN IRELAND.

We gather from the twentieth annual report of the Irish Bee-keepers' Association that, although the number of local associations affiliated during the year 1900 was very small, yet the membership of the local associations previously affiliated increased very considerably. The Association reports that it was able to render assistance to bee-keepers in different parts of the country in disposing of their honey, and it has now decided to make an effort to extend the sphere of its work by attempting, with the assistance of the Department of Agriculture and the Congested Districts Board, to establish a journal solely devoted to the interests of cottagers and others who engage in the industry of bee-keeping. A scheme has also been prepared by the committee and laid before the Department of Agriculture for the promotion of bee-keeping, by the formation of local associations throughout the country, to be financed by the Department and worked by the Association. The decision of the Department has not yet been communicated, but it is to be presumed that it will be favourable. Ireland's annual production of honey could, we feel certain, be vastly increased if information were diffused among country folk as to how they might profitably engage in the industry.—*Irish Independent.*

Bee Shows to Come.

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries close May 1.** Schedules from Edwin H. Young, Secretary, 12, Hanover-square, W.

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Four prizes for honey trophy, medals, and diplomas.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** Referring to page 164 of the B.B.J. of April 25, Mr. R. H. Coltman, 49, Station-street, Burton-on-Trent, writes:—If "Bamford" (Buxton) will send me the lady's name and address, I will arrange that the Derbyshire expert shall call and give what help may be necessary to overcome the disease.

H. Ballington (Matlock Bank).—*Naphthol Beta Solution.*—The naphthol beta sent out from this office is the only kind for the efficiency of which we can answer, with regard to its use for medicating bee-food, and full directions are given with each packet. One tablespoonful of the solution so prepared medicates 10 lb. of sugar made into syrup.

J. Hamilton (Holywood).—*Pollen in Surplus Chambers.*—There are no means—other than using queen-excluder zinc—of preventing

bees from carrying pollen into surplus-chambers except by ensuring storage room for pollen in the brood-combs below. This is what all experienced bee-keepers attend to, and it will be effective in your case when carried out.

A BEGINNER (Ealing).—*Candy and Syrup-Making.*—1. It is as unaccountable to us for any grocer to say he had "never heard of *pure-cane* lump sugar" as it would be to have never heard of lump sugar made from beetroot. Anyway, there is no difficulty in getting pure cane sugar in all forms, *i.e.*, lump, refined white crystals, yellow crystals, and also raw or unrefined, but for bee-candy lump is best, and for syrup-making use refined crystals. 2. You would have no difficulty we think in obtaining permission to visit the apiary at Swanley by applying to the Secretary of the B.B.K.A., E. H. Young, 12, *Hanover-square, W.*

IVAN SHEPPARD (Glos.).—*Bee Associations and their Members.*—We will make inquiry regarding the seeming want of ordinary business management of which you complain, and report further after obtaining official information on the point.

W. H. WOOD (Nottingham).—*Joining Bee-Keepers' Associations.*—The Secretary of the Notts B. K. A. is Mr. G. Hayes, 48, Mona-street, Beeston, from whom you may obtain all information as to membership and securing "expert" assistance.

Suspected Combs.

A. J. B. (Helsby).—We cannot answer for other combs in hive, but there are no "brown and rotten grubs" in sample. The cells contain only "chilled brood."

E. M. C. (Bognor).—There is foul brood in comb sent.

D. O. M. (Ipswich).—No trace of disease or of brood in comb; cells contain only mouldy pollen.

CONSTANT READER (Donegal).—There is a very *slight* trace of "brown scale" in No. 2, but in No. 1 we find no sign of brood at all.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

QUEENS of 1900 in introducing cages, 5s. each. HARRIS, Wavendon, Woburn Sands. F 35

SPLENDID Retriever DOG FOR SALE. Smooth coat, ready for breaking, 40s. JAMES WALLACE, Bramhall, Cheshire. F 33

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Rev. C. BEERETON, Pulborough, Sussex.

PURE EXTRACTED CLOVER HONEY, about 200 lb., for DISPOSAL at 5d. per lb. Sample, 3d. COLLINS, Castle Bellingham, Ireland. F 31

BEEKEEPERS in Wales will hear of something to their advantage by forwarding name and address to RUSSELL OAKLEY, Christchurch, Hants. F 29

FOR SALE, five healthy STOCKS of BEES in frame-hives. Will accept reasonable offer. WHITAKER, Victoria-road, Chatham, Kent. F 34

Prepaid Advertisements (*Continued*).

EXTRACTED ENGLISH HONEY, 11s. 6d. per ½ cwt. Tins free. Sample, 2d. Deposit system. RICHD. DUTTON, Terling, Essex.

FOR SALE, three-frame Nucleus STOCKS for delivery during May, 10s. each.; two volumes, as new, Cheshire Bees and Bee-keeping, cost 17s., for 12s.; three nearly new bar-frame HIVES, cost 14s. 6d. each; guaranteed clean, 7s. 6d. each. AVERY, Ripley, Surrey. F 30

FOR IMMEDIATE SALE, a few Lee's "Holborn" Hives with zinc roofs, in excellent condition, with excluders, and ten frames of drawn-out combs ready for swarms, 10s. each. One "Wells" Hive (Meadows' pattern) zinc roof, 20 drawn-out combs, and two excluders, 17s. 6d. Add 5s. for box of shallow-combs if desired. All guaranteed healthy. Free to rail. Overstocked in poor district. W. T. CADNESS, 131, Balfour-road, Ilford. F 36

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

25TH YEAR.—STOCKS, wired frames, three, 12s. 6d.; six, 16s.; eight, 18s. Skeps, 10s. 6d., 12s. 6d. Swarms booked. Packages free. ALSFORD, Expert, Blandford. F 25

BEES FOR SALE.—Stocks on six to ten combs, headed by young queens. Prices varying according to strength of stock; with or without hives. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

NUCLEI and STOCKS of BEES headed by prolific queens, common, home-bred Carniolan or Italian. Pure extracted honey. E. WOODHAM, Clavering, Newport, Essex. F 3

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

TWO more 1900 QUEENS FOR SALE, 4s. 6d. each. My Catalogue of Bee Appliances, Queens, and Poultry, post free. Buff Orpington and White Leghorn Eggs, 2s. 6d. sitting. Approval. SPEARMAN, Colesbourne, Cheltenham. F 19

GRANULATED HONEY, VERY FINE QUALITY, in 1-lb. screw-capped jars, 10s. dozen; in 3-lb. tie-over jars, 8½d. lb.; in tins reduced according to quantity, 7, 14, or 28 lbs. Sample 3d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

REALLY strong STOCKS BEES, on Standard frames, including brood-box, 25s.; ordinary stocks, 12s. 6d. or with proved "Swarm Preventing Hives," 17s. 6d. extra. Twenty years' "Bazaar" reference. ALBERT HARRIS, Wavendon, Woburn Sands, Bedfordshire. F 4

QUEENS, NUCLEI, STOCKS.—Highest quality for nearly 30 years, and British Emporium for queens giving unparalleled results. Virgins from 1s. 9d. Warranted fertile young queens from 5s. Most interesting circulars free. S. SIMMINS, Heathfield, Sussex. E 96

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

GREAT BARGAINS in everything useful in or about a house (from an Autograph to an Orchid, from a Toy to a Typewriter, a Mail Cart to a Motor Car, &c.) are to be obtained through *The Bazaar, Exchange, and Mart* Newspaper, Easily, Cheaply, and Quickly. "Like all grand conceptions, the process is remarkable for its simplicity." If you want to sell anything for which you have no present use, you can do so most readily and advantageously through the medium of the same paper. In addition the vast amount of interesting and practical information contained in its pages makes *The Bazaar, Exchange, and Mart* an unequalled journal for the Amateur and Collector. Get a copy and judge for yourself. 34th year of publication. Price 2d., at all Newsagents and Railway Bookstalls, or specimen copy post free for 3d. in stamps from the Office, 170, Strand, London, W.C.

Editorial, Notices, &c.

NORTHUMBERLAND AND DURHAM BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The eighth annual meeting of the Northumberland and Durham Bee-keepers' Association was held on the 26th ult. in Lockhart's Café, St. Nicholas's-square, Newcastle, Mr. J. J. Weighell, Stocksfield, in the chair. Mr. Wakinshaw, treasurer, read the financial report, which showed the society to have a balance slightly on the right side. The general report, as read by Mr. Waddell, stated that the condition of the society was satisfactory. The honey show, which was held last year, was quite a success, and they had decided to hold another this year, for which they had the promise of some additional prizes. The election of officers was then proceeded with, Earl Grey being elected president. Mrs. Coole, Newcastle, Miss Collingwood, Alnwick, Mr. R. A. Luck, Durham, and Mr. J. G. Angus, Newcastle, were elected vice-presidents, and Mrs. Philip Bedson and Mr. James Waddell joint secretaries. It was decided to approach the County Councils of Northumberland and Durham with a view to the appointment of an expert to assist in teaching bee-keeping in the two counties.

Subsequently the secretary read a paper upon bee-keeping by Mr. J. Rymer, Levisham, Yorkshire. An interesting discussion followed, after which the meeting closed with the usual votes of thanks.

REVIEW.

We have received a copy of the second edition of A. Alberti's well-known work on apiculture,* which contains much interesting information on German methods of bee-keeping. Although written originally to advocate a special form of hive, the book in its present shape is practically a complete treatise on apiculture as practised by our German brethren of the craft. The "leaf hive" invented by the author is a modification of the usual German hive, which resembles in construction a small bookcase, the combs representing the books. The combs are removed from the side or back of the hive with the aid of a special pair of tongs, and the top is usually fixed. The "Alberti" hive is so constructed that the combs can be taken out from the side, and there is an inner window through which the ends of the combs may be inspected without allowing the bees to escape. The chief advantage of this construction of hive appears to be that a number of them can be stocked in a small space. An illustration is given of a waggon specially constructed to contain fifty hives, which can thus be moved about the country according to the time of year. It is stated that in the spring the honey-flow is so abundant in some districts that hives containing forty to forty-eight of the large German standard-frames are necessary to take full advantage of it. Judging from the remarks made by the author on the English system of hives, as represented by the "Cowan" hive, he does not appear to have had much practical experience of their working. Among other criticisms they are said to be unsuitable for wintering stocks. Surely, however, the North American climate is as severe as that of Germany, and we are inclined to think, from a personal experience of both kinds of hives, that a well-packed hive of the English make keeps the bees warmer in winter than do hives of the usual German type.

According to German law, the owner of bees is responsible for any injury his bees may cause by stinging, &c.; and many bee-keepers insure against loss from this cause. The various associations effect the insurance for a payment of a few pfennigs per stock. As 100 pfennigs are equivalent to 1s., such an insurance can scarcely be felt by the bee-keeper.

On the packing and uses of honey Herr Alberti's book contains some useful hints, and its perusal may be recommended to those who are familiar with the German language.

* "Die Bienenzucht im Blatterstock." Von A. Alberti. Berlin: C. A. Schwetschke und Sohn. 1901.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

AN OLD BEE COLONY.

A SWARM FIFTY-TWO YEARS IN A WINDOW.

[4346.] A swarm had taken up lodgings between the panes and the shutters of the house of Colonel B. in 1848, and the other day the Colonel decided that it would now be about time to ventilate the room from this side, and call for some one to remove the bees.

The window measured 1 metre 20 in height and 0 m. 80 in breadth, and the bees had filled up every inch of space between the panes and the shutters. Happily, they had

built their combs parallel with the tiny panes, and differing from 20 to 22 centimètres in breadth, so the window could easily be opened, the propolis being the only hindrance. On the outside most of the small spaces between one board and the other of the "persiennes," as this style of shutters is called, had so been covered up with propolis in some places that the bees had manufactured full sheets of propolis 1 ft. or more long to protect themselves from the winds which occasionally might have blown into the cluster.

To judge by the looks of the combs, the bees must have had many ups and downs in their half-century old home, without anybody interfering with them. To begin with, the swarm had built the greatest part in the first year, as the regular work from up to down shows, and gathered honey in consequence. The honey, however, must have been carried away or transformed into bees in the following years by successive swarms, and the stock (weakened perhaps by too many exits) was reduced to a young queen and the bees, which diminished greatly by the time the queen got mated, and then, may be, a long and dry summer did the rest; and so the hive had to struggle on for more than a year, to look like a recent swarm again. The ever-ready, bustling, busy little wax-moths

"Improved each shining minute,
And gnawed all the day,
And laying millions in it,"

as Dr. Miller humoristically said one day. So, as a consequence, the lower part was all eaten up, and the inches of excrementa below the cluster showed the numbers of moths (*galeria*) which have been busy destroying the old combs; but whenever the bees had a fine season, the colony got strong again and new combs were built. The mother-bee now before me may have been somewhere in the seventeenth or twentieth generation since they first arrived; she did not seem more than a year old, and the swarm was once more reduced to its simplest condition. The group of comb on which the bees were now living was fresh—certainly not more than a year old—and had been built there, after the old had been gnawed away, either by the bees or by the wax-moth, or even by both, each in their turn. They only occupied the fourth part of the whole space—in the best corner—and the other three-quarters seemed rapidly to fall once more a prey to thousands of moths roaming busily about the falling and decaying bits. On the sill was a strata of moth excrement at least 2 in. high, and reminded me of the guano of the bats in the caves of Palestine.

No comb was so old, or rather so thick in the cells, that it was not just as good as a newly built one, and in fact the most was utilised in the transferred-hive. The Colonel naturally expected heaps of honey and honey-comb, but it was a plain fact that should bad weather have stepped in, even in this April weather, the bees would have starved in less than two days, as they had nothing but their stores to depend upon. The swarm will build up slowly, and in spite of its fifty-two years undisturbed standing, is not now worth more than a simple swarm just fresh from the parent hive. *Avis aux* amateurs and such as still believe in the let-'em-alone system.—PH. J. BALDENSPERGER, 10, *Br. Raimbalds, Nice, France.*

BEES ROBBING IN SPRING.

AN "UPSET" IN THE BEE-GARDEN.

[4347.] With the help of a bee-keeping friend I cleaned out three of my hives on the 20th inst. I removed the hive in question away from the others during the operation, as I required to lift out the frames. The day was very hot, and a number of bees—many of them, no doubt, strangers—were flying about. Some of the latter perhaps got among the frames during removal and replacement. Be that as it may, however, after everything was concluded the hive was replaced on its stand, and I contracted the entrance to an inch in width. We finished about 1 p.m. There was a little fighting on the landing-board, but not more than on the others, and not to such an extent as to be alarming.

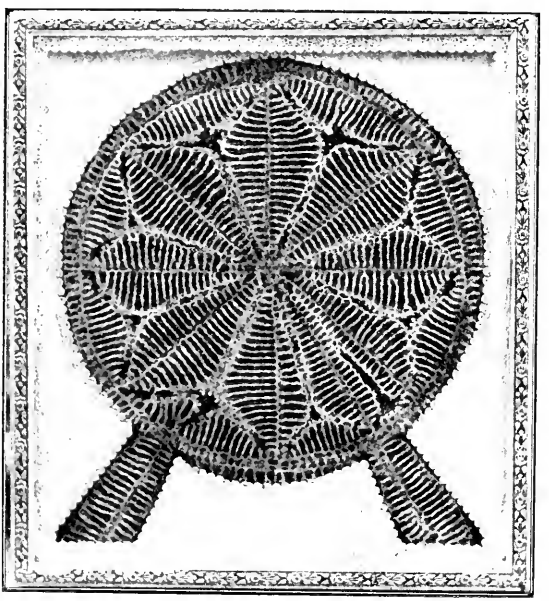
I then helped my friend to clean his hives. This done I came back to my own apiary, after being away about two hours, when I found a change of scene! The bees were rushing all over the landing-board of the hive first referred to, running up and down the hive-front, and dancing in the air about the entrance in hundreds! From the commotion and restlessness I feared the queen had come to grief during the transfer, for there did not seem to be any more fighting going on. I again returned to my friend of the forenoon in order to get his opinion, and as he was of the same mind as myself we determined to make an examination. We removed the quilts, expecting to see an equal commotion inside, but no, everything was normally quiet. On the second frame lifted out we saw the queen, and thereupon at once replaced the covers, but as the afternoon advanced matters got worse. The bees kept entering and leaving rapidly, while the crowd hovering in front showed no signs of decrease. I then concluded the hive was being robbed. I reduced the entrance to a bee-breadth, but the row got worse than ever, and I thought the bees inside would be suffocated. I opened the entrance a little and painted the landing-board and surrounding parts with carbolic acid solution. This checked the disturbance a little, but a considerable cluster then formed underneath the landing-board. They quietened down about 7 p.m. Yesterday afternoon the performance was repeated, and during its progress, as on Saturday, I noticed pollen being carried in. I could never perceive much fighting, and there are no dead bees lying about to show that any has taken place. I noticed that a great many

of the bees when they issued turned their heads to the entrance, and taking wing kept dancing up and down just as though they were about to swarm. I noticed above before carbolic acid was applied. I have read that bees are wild and savage while robbing is taking place, but in this case was there no desire on their part to use their stings? I have wondered what was the reason of their strange behaviour.—J. A., *Perthshire.*

HONEY-COMB DESIGNS.

HOW I MADE A SUCCESS OF ONE.

[4348.] At the beginning of the year 1900 I had never seen a honey-comb design in my life. The first idea I had of such a thing was from reading an article in one of the illustrated papers about twelve months ago about the family of Colonel (now General) Baden-Powell, and in which there appeared an illustration of a comb-design in the form of a bicycle made by Miss Baden-Powell's bees. At the time I was a bee-keeper in my novitiate days, and so I thought if Miss Baden-Powell's bees could shape a bicycle in honey comb, why not mine work out a big wheel? So I resolved to try my hand at the job, and made a frame of wood similar in size to an ordinary section-rack, with a ¼ in. rabbet inside round top and bottom, and within this space had a sheet of glass cut to fit in at the top. It then struck me that the bees could not build comb on the glass without ventilation, as the heat from below would cause condensation of moisture on the under side. In order to overcome this difficulty I had two corners cut off the glass, and let in two strips of wood for the latter to rest on where the corners had been removed.



DESIGN IN HONEY-COMB.

I then cut a piece of stout cardboard—same shape and size as the glass—for the bottom. The design was next drawn on paper, then re-traced on transparent tissue paper, and finally transferred to the cardboard by laying the tissue paper on it and drawing a pencil round the lines originally drawn.

I then punched holes for the bees to pass through the cardboard in positions under the comb foundation. I next proceeded to cut a strip of strong cardboard, wide enough to allow of its being glued to the bottom piece, and yet not quite reaching up to the glass. This strip of card was then bent to the shape required, and glued to the stout bottom-piece first mentioned; and when this was completed I secured it in the box with a few tacks, filling up the two corners specified with perforated zinc. All being now ready for the foundation, I prepared to fix the latter by placing the "design" on the table, then laid the glass over it. I then cut the foundation, slightly warming to prevent its breaking, in strips about 1½ in. wide. I fixed the centre bits first, one at a time, by bending the edge a little and warming it by a candle, taking care not to blacken it.

As each piece was warmed it was fixed on the glass over the pencil marks drawn on the design, pressing it down with my thumb and holding till cool. Then to ensure still firmer fixing I drew a piece of wire made hot along the edge, taking care to wipe the wire each time it was removed from the fire so as not to make any black marks. The circle in centre was fixed in the same way, and where I made a joint I lapped the pieces over a little, then drew the hot wire up them, thus melting the wax and fixing them together.

I then placed the glass carefully in the box, leaving any little irregularity, so that where the glass did not fit to provide ventilation. All was then ready to put on the hive.

I placed it over the first swarm of last season, which was doing well at the time. Three days afterwards I examined it and found one piece of foundation had fallen down, but as the bees were working so nicely on the parts of the design still intact I decided to leave them alone, and am glad I did so, for I think the bees actually improved on my design. On looking at the photo you will see the place where the bit fell down; it formed part of the left-hand upright of the wheel; both sides

should have been alike. When the design was found nicely filled and sealed, I raised it and placed a super-clearer and section-rack beneath, and thus got the bees out.

My description may not be quite clear to all, but I have given the plan followed as closely as I can for the benefit of other young bee-keepers who may like to try a honey-comb design this year.—RICHARD ALLEN, *Tusmore, Bicester, April* 30.

REQUEENING IN APRIL.

[4349.] Seeing your reply on page 167 to a correspondent who inquires with regard to queens mating in April, I send the following, thinking it may be interesting:—About March 20 last I accidentally killed the queen of one of my best stocks; and as I happened to want some early queens, I started queen-rearing at once. All went on well, and I got the queens hatched out from April 7 to 10; but as I saw no drones on the wing until near the end of that month, I was afraid my young queens would not be safely mated.

Of course I could do nothing to assist matrs, and so had to await results. I was agreeably surprised on making an examination to-day (Saturday, May 4) to find eight of the ten young queens raised safely mated, as shown by there being normal worker brood in all stages. In one hive I found three patches of sealed worker-brood, the middle one as large as a dessert plate. There was just one sealed drone-cell in the middle of the comb. Is not this very early for queens mating for such a backward season?—EDWIN W. CARBINES, *Cardinham, Cornwall, May* 4.

[It is no doubt very early for such a successful queen-mating in April as the above proved, but it verifies the opinion we expressed on page 167. We shall be pleased to include your bee-garden in our "Homes" pictures if a suitable photo is sent.—EDS.]

SOME ESSEX NOTES.

[4350.] *Dairy Show Prize Fund.*—Judging from Mr. Young's letter in the B.J. for April 25, the bee-keeping section of the Dairy Show this year will be like a full-grown man in knickers, *i.e.*, cut according to the cloth. Several announcements of funds being started for useful purposes in connection with bee-keeping have appeared in your pages during the last few months, and all have received equally poor support. This condition of things is not a little painful to the feelings of a follower of the pursuit who would contribute but is unable to do so. I go among bee-keepers of all classes, and cannot help noticing that this same lack of liberality is a main cause of much of the unsuccessful bee-keeping we hear of. There was until recently, and for many years, an old man living within a short distance of me who has been known to look carefully all round a sovereign before paying it away, and say, "Ah! I shall never see you again!" I am not suggesting that bee-keepers generally are of a like disposition, but the poor support given to the several funds referred to above raised up the old man and his money before my mind's eye.

Length of Time Combs Remain Useful.—Although I make it a rule to remove some of the older pollen-clogged combs from my hives every year, I have at the present time one frame of comb in use which I know for certain to be about twenty years old. Not only so, but this comb has always during the whole time been serving some useful purpose. The cells are regular, clean, and free from pollen, and so it has been allowed to remain in use, and I may say that though quite black this comb is as serviceable as ever it was. The queen of the stock in which this frame hangs has shown her appreciation of this particular comb by completely filling it with eggs at the present time. I had some thoughts of taking this frame and sending it on to you as a bit of a curiosity, but it is just now a complete slab of brood, and must necessarily remain in the hive some time longer. The cells are not perceptibly reduced in size by the many thousands of bees that must have been reared in it.—WM. LOVEDAY, *Hatfield Heath, Harlow.*

(*Correspondence continued on page* 186.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Withycombe is a well-known expert in bee-keeping, whose "manner and method" in performing the work of county associations—for whom he has done "bee-tours" in the past—make him very popular with all of their respective members. Quiet and respectful in manner, he never spares himself time or trouble in doing the right thing, and consequently his visits are always welcome. We are pleased to illustrate his apiary in our "Homes" pictures on next page, where the quaint old-time cottage, now shading its rows of modern frame-hives, looks as if it would harmonise better with the ancient bee-bench and the time-honoured skep it may have sheltered 400 years ago.

Of himself Mr. Withycombe writes as follows:—

"In response to your request to send particulars of my bee-keeping experiences, I may say that my first acquaintance with bees took place when about seven years of age at Atworth, in Wiltshire, where my brother and myself were sent to a 'dame school to be out of mischief' while there on a holiday. Seeing some skeps near the school door we tried to investigate their interior, with the result that the whole school had an enforced holiday for the remainder of the day. Strange to say we brothers both escaped without serious mishap, but were looked upon as undesirable scholars after the

occurrence. Later on, in the summer of 1881, while still a boy at school, I made a frame-hive from a pattern lent by a friend, and commenced bee-keeping with a swarm, which, I am bound to add, promptly decamped the same day. A second swarm enjoyed the hospitality of the hive a little longer, remaining over one evening, but taking flight the next morning. Not to be daunted, however, I later on secured some driven bees to stock my hive, and, after some lively times—in which the fortunes of war fluctuated between the bees and the would-be bee-keeper—I at last got my hive tenanted, and the next season secured forty-seven 1-lb. sections from the stock. My apiary gradually increased until it numbered thirteen hives, when foul brood appeared, and, being at that time ignorant of its nature and treatment, twelve of my stocks succumbed to its ravages. This, however, proved to be the last of my misfortunes, as, determined not to be beaten, I set out to increase my apiary again, and at the same time studied all the literature about bees on which I could lay my hands. As a result of this, when about eighteen years of age, I entered for and secured the third class expert's certificate of the B.B.K.A., having to travel 100 miles each way to do so. The second class examination I also entered for and passed in the same season; but have not yet mustered confidence to attempt the first.

"In 1895 I was appointed expert to the Kent B.K.A., and since then have acted as expert to the various Associations of Lancashire, Cheshire, Kent, and Sussex, Bristol, Somerset, South Gloucester, and Essex, being also local secretary and adviser for the Bridgwater district. Though my various engagements keep me away from home almost entirely through the summer months, I have occasionally managed to send to the honey shows in the county, having won over ninety prizes for honey, including the silver medal of the B.B.K.A.; the bronze medal of the Bristol B.K.A., and also their championship prize, the only one ever offered by that Association. Referring to the photograph sent, the whole of the hives (numbering twenty-five in all) were with one exception made by myself in my spare time, and are mostly of the "Sandringham" pattern, but without porches. The figures appearing in the photo are:—On the left my father, who hives any swarms which may come off during my absence from home; in the centre a young man who, I hope, will one day possess an expert's certificate; and on the right the writer. The house in the background is over 400 years old, and has an interesting and eventful history, having been the headquarters of Monmouth's officers on the eve of the battle of Sedgemoor, and later having been used as a meeting place for the sect known as Princeites. At the present time it serves as a storehouse and extracting-room for me, and a nesting place for thousands of wild bees. Extending behind and on either side may be seen some of the famous apple orchards of Somerset, there being several hundreds of acres within easy flying distance of my bees."

MR. W. A. WITHYCOMBE'S APIARY, BRIDGWATER, SOMERSET.

CORRESPONDENCE.

(*Continued from page* 184.)

AN OLD-TIME BEE-MAN.

I.—THE MAN.

[4351.] Let me revert to my old friend and again call up some memories of the vanished past. Born in the closing years of the eighteenth century, he had just attained the age of budding manhood when he helped to win the Battle of Waterloo. It was his first and last great battle, for though he had in turn later visited all parts of our dominions and engaged in many punitive expeditions, they were all mere skirmishes. The life was arduous, however, and left its impress even on his stalwart frame; and in the days of our early intercourse labour was beginning to be a toil, and he loved best to sit in his rustic arbour, under the shade of honeysuckle, ivy, and eglantine, or lie reclined on the tangled grass basking in the summer's sun, intently watching the bees as they came in laden with their odorous loads gleaned from the broad hill-side or from the fertile fields in the strath below. Schoolboys have a great propensity for calling "bye" names, and my old hero had his full share. "Simon Peter" was given, I presume, in honour of his skill as a fisherman, which won him a name and fame far and wide. "Simon Lord Lovat" was a more common title, due to his being a member of that famous clan. The memory of his martial deeds got full acknowledgment in the appropriate, if honorary, appellation of "the Iron Duke." One more sobriquet was given by ill-natured people—never by us schoolboys, viz., "Simon the Cellarer." If this cognomen had any significance it was his only weakness, for all his other failings "leaned to virtue's side." Taken "for all in all," he was a man every inch of him, and his inches were not few, for he stood over 6 ft., and was stout and burly in proportion. Nature made him, if he were judged by his exterior, rough as a chestnut burr, gnarled as an aged oak, and unpolished as an undressed tree trunk. Judged by a knowledge of his inner man, when the intercourse of years enabled you to penetrate beneath the crust, his soft and tender heart, his deep affection for those admitted to his friendship, his sterling love of virtue and truth, his regard for all that was good, pure, and worthy, his admiration for nature and all her works, showed a heart like that of Douglas, "tender and true," and opened up vistas of hitherto undreamt sweetness and affection. Every flower of the field, hedge, and woodland had his fond admiration. Every plant in his rustic garden was loved and tended as if it were a part of his being. And his knowledge of plants and flowers, though unsystematic and not according to *Linnæus*, was yet of an extensive and interesting kind. But it was on animate nature that he poured forth most of his love and admiration. His dog, his cat, his poultry were "his own familiar friends." He expended his wonderful fund of affection on them in full and lavish measure, and they responded with an "adoration" I have never known exceeded by animals. His bees were, however, his special pets. He used to apostrophise them as if they understood him. And they did! If not his words then his gentle deeds and ways, for they were the quietest bees I ever dealt with. No veil or gloves were ever worn in that bee-garden, and no smoker was ever used, yet stings were unknown. His knowledge of them and their ways was great. It was all taken from nature, for of books and book-lore—"ancient" or modern—he knew nothing. Would that I could open up before his delighted vision the inner economy of a modern frame-hive, or the still greater treat of an observatory hive; but that can never be. He wrought entirely with that "sealed book," the straw skep, and was in blissful ignorance of the many modern inventions which make bee-keeping such a pleasure. Yet he made it a paying concern as well as a labour of love. These were the days of fabulous takes and fabulous prices. How he rubbed his hands in glee as he ran over the names of one magnate after another who had sent him orders for honey amounting often to several pounds.

What a pleasure and delight it was to at least one schoolboy when he was given permission to spend a long Saturday holiday with his friend among the bees: when from early morn till dewy eve he could roam at will by hill and dale, by brook and stream, with a congenial spirit who loved nature and all her works with a love fervid and pure. I have wandered many a weary foot "sin auld lang Syne," yet these short rambles are as fresh in my memory as if they had taken place yesterday. And no treat of later days can equal one of these either in reality or as a reminiscence. The birds, trees, and plants, as well as our four-footed friends, formed food for talk as we drank in the sweets of nature and each provided a never-ending fund for meditation and conversation. In thinking he often forgot that he had a companion near and soliloquised in his mother-tongue—the speech in which "Ossian sang." At no other time than in these meditations did I ever hear him use it; for long residence abroad made him thoroughly familiar with English. Yet he evidently did his thinking in Gaelic, much to my regret, for to me it was a foreign tongue. Though ours is a typical Highland glen the language is a thing of the past, and only lingers in place names to show that it once had been.

A tale is told of a Highland chief who had been sorely wounded in the olden time in one of the many clan feuds, who expressed his dying desire to be laid to rest in one of its burial grounds where no word of English "would ever pollute his ear." Now no word of Gaelic is ever heard in the glen.

This habit of thinking in Gaelic and giving utterance to the thoughts in English adds grace and dignity to the speech of the Gael. My friend had this grace of speech, with slow and deliberate expression and clear enunciation. The stories of his adventures were endless and often of thrilling interest, and I loved to repose with him on a bed of heather or beneath the shade of the bracken in some shady corner listening to his tales of

"Most disastrous chances
Of moving accidents by flood and field,
Of hairbreadth 'scapes i' the imminent deadly breach"

—F. E. I. S., *N.B.*

(*To be continued.*)

AFTER THE WAR.

BEE-KEEPING FOR SOUTH AFRICA.

Since Mr. Chamberlain's speech urging extensive female emigration to South Africa when things have settled down in that country, large numbers of women from all parts of the kingdom have been appealing to the United British Women's Emigration Association, at the Imperial Institute, for particulars which would guide them in their intentions to make that country their future home.

"We welcome," said the secretary to a Press representative, "the time which must necessarily elapse before the country will have settled down to industry, for we do not want to send out a number of raw, untrained women. As it is, we are enabled to encourage them to train for definite occupations. Just now, by means of a pamphlet written by Lady Knightley, of Fawsley, we are appealing for the active co-operation of ladies throughout the country in enabling intending emigrants to obtain instruction in various departments of practical life. In some parts of the country County Council classes for technical instruction provide the readiest means of gaining instruction.

"Bee-keeping seems to promise a great future in South Africa, for, as has been pointed out by Mr. Theodore Bent, in a country where wild bees thrive so well, tame bees ought to succeed; and therefore Lady Knightley urges ladies who are members of county bee-keeping associations to obtain, if possible, for intending emigrants some knowledge from the expert usually attached to such organisations. Butter being somewhat scarce in South Africa, importance attaches not only to honey, but to jam, the making of which should be included in the subjects taught.

"Thus, as this end," concluded the secretary, "we are making great efforts to prepare the way. Meanwhile much preliminary work will have to be done in South Africa. Already a committee is at work in Capetown, and the formation of others in all the chief centres of industry will follow in due course. Their chief purpose will be to welcome the immigrants and to find them employment."—*Daily Chronicle.*

Queries and Replies.

[2641.] *Disinfecting Hives.*—I beg to thank you for the information already given me in your pages. My bees are all busy, and seem strong and in good condition. Last summer was my first season as a bee-keeper, and I am looking forward with interest to the pleasure I hope to have amongst the bees in the coming season. The comb enclosed came from a hive belonging to one of my neighbours, whose hives (two) have both died out. Starvation, I presume, is the direct cause of the bees' death, but I am anxious to know if there is any disease in combs. They seem to have got damp and are all mildewed. I have got one of the hives from my neighbour, and would like to know if I may safely use it after thoroughly washing it with carbolic and then giving it two coats of paint inside and outside? I have burnt the frames and am destroying the combs, but the hive is a good strong one. I am so afraid of foul brood. I am medicating any food I have given to my bees, and am very careful to do all I can to keep them right. I may mention that there was a queen-cell among the comb, so I suppose the queen must have died, and they had been trying to raise another. The bees were a last year's swarm. Apologising for troubling you. —M. M. M. C., *Doune, Perthshire.*

REPLY.—The comb sent contains brood that has practically all died of hunger or cold. In one cell only did we find a suspicious trace, which on microscopic examination, however, was found free from disease. The steps you propose to take for disinfecting the hive will be quite effectual, as there can be no spores of bacillus alvei present. We are always glad to hear from bee-keepers like yourself, who are rather disposed to "make assurance doubly sure" than dispense with any effort likely to reduce the risk of foul brood.

[2642.] *Queen Taking Flight During Hive Inspection.*—I am much obliged by your reply to my query *re* queen taking flight (2633, p. 168), and, as therein directed, I have made an examination of the hive and find that the queen has not come back. There are no eggs, but there is one queen-cell with a grub in it. May I trouble you with a few more questions: —1. How is one to be safe in making examinations if there is a risk of the queen flying away like this one did? 2. I notice in different books that a virgin queen leaves the hive for meeting the drone sometimes as early as five days after hatching out, and sometimes much later, but does she fly out more than once? I mean if she flies out in five days and fails in mating will she go forth again and yet again during the fourteen or twenty days in which fertilisation is possible? 3. If it happens to be an unsuitable day the first time she takes her mating trip and fails to get mated, is that an end of it, and is she bound to be a drone-

breeder? 4. What do you think of the plan of getting bees from skep to a bar-frame hive by letting them swarm, and at the end of twenty-one days driving and uniting the remainder to swarm keeping the young queen? I mean how does this plan compare as against that of placing skep on top of frames and allowing bees to transfer themselves by working down into lower hive?—W. S., *Doncaster, April* 30.

REPLY.—1. Laying queens rarely take flight during examination of combs unless startled, perhaps, by an awkward attempt to pick them up in the fingers. On the other hand, virgin queens are liable to fly off at times, but they usually return to the spot they took wing from in a moment or two if the operator stands still and leaves all just as when she took flight. If the queen in question was a prolific laying one, search should have been made on the ground a few feet away from the hive, as it is more than probable she would drop down after flying a yard or two. 2. Yes, young virgin queens sometimes issue on several successive days before they are successful in their marital flight; indeed, at times they fail altogether in meeting drones on the wing. 3. Mating trips are only taken on fine days, when the weather is suitable. 4. The plan you first suggest is an old one, and works out well enough, but we consider it does not compare at all well with the method of not waiting for swarms, but letting the bees transfer themselves early in the season on the plan you name last.

[2643.] *Bees turning Vicious.*—Will you favour me with your opinion and advice in the following case:—One of my colonies, which I have had for over three years, was perfectly docile and manageable until after swarming in May last, since which they have been—as Alice would say—getting "wusser and wusserer," and are now almost demoniacal. I managed this morning—about six o'clock—with time, patience, and what I can only look upon as indomitable courage, to take off the body-box and clean the floor-board, &c.; but it seems impossible to subdue them. Subjugating cloths infuriate them; smoke they appear to revel in, and "go for" the smoker like anything; while huge battalions execute dexterous flank movements, and even charge onlookers within twenty feet or so. They have not yet thrown up entrenchments, but are coming to it. It is a very strong colony of tremendously hard workers, but evidently determined to keep what they get. I suppose they *ought* to be supered at once, but—well, I am "thinking" about it, and in the meantime contemplate getting a veil, although I do not much like the idea, never having worn one or experienced the least difficulty in conducting operations until last autumn in dealing with this hive, and again now. We had a very lively time this morning, and I had several nasty stings, which have put unpleasant thoughts of bonfires and similar things into my head, but I shall probably calm down shortly.—F. W. RODEN, *Somerset, May* 3.

REPLY.—When bees become incurably vicious, as they occasionally—but rarely—do, there is no remedy but removal of queen. Since the bees in question are, however, specially commended for their good working powers, we should hesitate before taking extreme measures. An experienced bee-keeper might find some reason for the change in the temper of the bees if he could examine the hive. We do not think anything of your being compelled to use a veil, as all bee-keepers find it needful to do so at times.

[2644.] *Drone-Brood in Worker-Cells.*—I am enclosing a queen-bee (dead) taken from one of my own hives under the following circumstances. The hive did well at the moors last season, and went into winter quarters strong in bees, with plenty of food. On opening and going through the apiary last month, the hive in question was still strong in bees; but on seeing some of the worker-cells extended and capped over, I overhauled the hive and found not a single cell of worker-brood, but plenty of drone-brood in the worker-cells. The queen seemed active, so I closed up the hive again to await developments. Last week I examined the hive again and found the same conditions—an utter absence of worker-brood, plenty of drone-brood with hatched-out drones. Yesterday I opened the hive again and found a similar state of affairs. I took out the queen this morning and shall put in a frame of eggs from another hive to-morrow with the purpose of allowing the bees to raise a queen. I am enclosing queen and shall be glad if you will kindly say what you think is the cause of the queen laying only drone-eggs. Do you think something happened to the old queen late last autumn, and this is a virgin queen raised by the bees after the drones had been killed off and unfertilised?—R. T. T., *Thirsk, May* 3.

REPLY.—Dead bee sent is a full-sized adult queen, with none of the usual signs of being "aged" and worn out. It therefore is pretty certain that the queen forwarded was raised too late last year for mating.

NOVELTIES FOR 1901.

TAYLOR'S ENGLISH-MADE DOVETAIL HIVE.

This hive, which has been specially designed for shipping to our colonies in the flat, is dovetailed accurately throughout, and it is thus simplicity itself to put it together. For bee-keepers who have not room at home to store hives made-up, and wish to buy in the flat and put them together themselves, this is the hive *par excellence*. All elaborate parts are done away with, only those absolutely

necessary retained. The hive consists of some thirty-one pieces, and can be put together in a few minutes without a chance of going wrong.

The hive meets the requirements of bee-keepers who wish to save heavy railway charges and prevent hives getting knocked about in transit, while using their spare time in putting hives together, are thus saving money and lessening the cost of producing honey and increasing the profits.

The description of above hive is as follows :—Rabbeted floor-board with stout joist ;

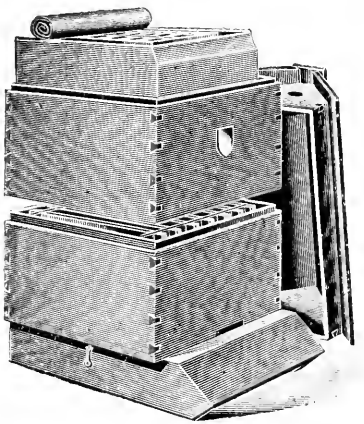


FIG. 1.

japanned hooks for securing body to floor-board ; deep 9-in. brood-body, with three outside fillets and entrance in front ; sliding inside walls, which may be nailed if desired ;

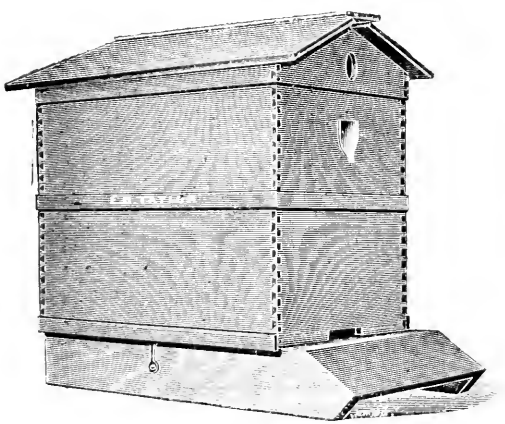


FIG. 2.

deep 9-in. lift, with four outside fillets and removable inside walls, which will take a set of standard frames or cover two racks of sections ; span roof which telescopes over lift when out of use in winter.

Bee Shows to Come.

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed** except for extra fee. Schedules from Edwin H. Young, Secretary, 12, Hanover-square, W.

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society ; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Four prizes for Honey-Trophy, medals, and diplomas.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. W. E. (Holywell).—*Renewing Combs.*—1. It is best to renew combs gradually. When weather becomes warm and settled, and the hive body is well furnished with bees, insert a single frame of foundation in centre of brood nest, removing an outside comb (containing no brood or eggs) to make room for the added frame. A week or ten days later, if the favourable conditions continue, a second frame may be inserted as before, and the operation again repeated till supering time sets in, when if surplus is desired the renewal of combs must be suspended. We advise allowing the stock "in an old cheese box" to swarm, and hiving the swarm in the new skep in which you desire to keep it. You cannot transfer the old combs and bees from cheese box to a skep.

G. H. C. L. (Enfield).—*Expert Help with Bees.*—The Hon. Secretary of the Middlesex B.K.A. is Major Fair, 11, Anlaby-road, Teddington, from whom may be had all particulars with regard to affording expert help and terms of membership.

BUSY BEE (Caerleon).—*Combs Infested with Wax-moth.*—1. Any combs badly infested and damaged by the larvæ of wax-moth are beyond repair, and must be melted down for wax. 2. A good fumigation with burning brimstone will destroy the larva in its active state, but when combs are, as you

say, "occupied by eggs, grubs, and cocoons," do not try any remedy but the melting-pot.

W. WRIGHT (Pickering).—*Rymer's Heather Honey Press.*—We hope to give an illustration of this appliance shortly, along with further particulars.

F. J. (Mountmellick).—*Using Carbolic Acid about Hives when Transferring.*—Bees will object very much to the fumes if you give a coat of carbolic acid to the body-box into which they are transferred. Don't use the acid under such circumstances.

Suspected Combs.

J. C. PHILLIPS (Berkhampstead). — No disease in comb sent. Your idea of the stock being "fairly strong early in March," could hardly have been correct, as the combs have evidently been infested with wax-moth for some time past. The few bees ("about 100") are entirely useless, and should be destroyed along with the old combs now in the hive.

A BEGINNER (Leicester).—1. There is no sign of disease in comb. Indeed, no trace of either brood or food in the cells. 2. The bees are of the ordinary or brown variety.

CWCH GWENYN (South Wales).—The bulk of dead brood in cells of comb is free from foul brood.

F. W. R. (Som.).—There is no trace of brood in comb sent, only hard and useless pollen, along with some food.

A NOVICE (Abergavenny).—None of the three samples of comb sent contain anything worse than pollen and food. There is no disease about them, but such as are overloaded with pollen will be of little or no use for giving to a newly-hived swarm. All comb with clean cells or food can be used as desired, but the rest of comb may be cut away as useless, and the bees allowed to replace it by new comb. There is no absolute necessity for using full sheets of foundation when hiving swarms.

E. R. (Cumberland).—Comb is badly affected with foul brood.

A. HALL.—There is foul brood of old standing in comb forwarded.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, ten strong SKEPS of BEES. Apply, R. HOLMDEN, How Green Farm, Hever, Kent. F 40

BEE-HIVES, new, cheap for cash or offers. Must sell. No. 4, Charles-road, Birmingham. F 46

TWO good (15 bars) BEE HIVES FOR SALE; to be sold cheap. Price on application. EVERTON WATTS, Kingston, Yeovil. F 39

EXCHANGE pair YORKSHIRE CANARIES, value 20s., for BEES in skeps. WALKER, Peachfield, Ampton-road, Edgbaston. F 54

WANTED, cheap, second-hand BEE APPLIANCES; Books about Bees. COOK, Schoolhouse, Chingford. F 52

FISHING TACKLE, new complete set, cost 30s. What offers? C. TILLEY, Hazlewell-street, Stirchley, Birmingham. F 43

SEVEN STOCKS, Standard frames, zinc roofs, healthy, 21s. each. MARSHALL, Kingsley Villa, Pateley Bridge. F 41

Prepaid Advertisements (*Continued*).

REAL reliable METAL ENDS (not tin); will not slip off the frame; per lb. of 20, post free, 1s. C. DYER, Compton, Berks. F 53

TEN zinc QUEEN EXCLUDERS on wood frames, 19 in. by 17 in., 5s. lot. HODGKINSON, 76, Valley-road, Spital, Chesterfield. F 50

TWELVE STOCKS of healthy BEES in fine condition for supering, in first-class "W.B.C." hives, FOR SALE. Mrs. ASHBY, 110, Liverpool-road, Birkdale, Southport.

BEES FOR SALE.—A Gentleman, giving up bee-keeping, has twenty Stocks to sell; bar-frames and skeps. Apply, A. FURNIVAL, Fleckney, Leicester. F 45

36 LB. of EXTRACTED HONEY (1st quality), in 1-lb. screw-cap bottles, neatly labelled, 8s. 6d. doz. Cash with order. GARDINER, junior, Daneway, Cirencester. F 43

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

PRIZE STRAIN GOLDEN WYANDOTTES, bred from best layers; 10 years 3s. 6d. sitting; genuine. MORRIS, Stationmaster, Stanford-le-Hope, Essex. F 38

GOOD light coloured HONEY, 1 cwt. at 5½d. per lb.; 1 cwt. 2nd grade, 4½d.; 2 cwt. of dark, 3d. per lb.; all in 32-lb. tins. Samples 2d.; tins free. W. HAWKES, Barley, near Royston, Herts. F 51

ON SALE—One bar-frame HIVE of BEES (healthy), new Extractor, Honey Jars, &c. What offers? Apply, A. PENNINGTON, The Rookeries, Liverpool-road, Ashton-in-Makerfield. F 49

FOR SALE, three STOCKS of BEES. Frame hives, supers, doubling boxes, feeders, other requisites. Sacrifice to clear premises. Rev. G. C. KEBLE, S. Catharine's Vicarage, Gloucester. F 44

FIVE cwt. Hampshire HONEY (clover, sainfoin, lime), in self-sealing tins, holding about 30 lb. Tins free. Sample, 2d. Deposit. HAWKER, Longparish, Hants.

WANTED, active, intelligent young MAN, single, to help in small apiary, look after pony, make himself useful. Must be able drive. Apply letter, HAWKER, Longparish. F 42

WELLS' HIVE FOR SALE, by Blow, containing standard two shallow bodies, framed excluders in splendid condition. Guaranteed healthy. 21s. Also Brice Swarm Catcher, new condition, 3s. GEARY, Stanley-street, Barwell, Hinckley. F 48

I AM BOOKING ORDERS for natural swarms of my well-known strain. Guaranteed healthy. Three lb. 10s. 6d., four lb. 12s. 6d., five lb. 15s. Packages to be returned. Eggs from mas-ive Buff Orpingtons 3s. sitting; unfertile (if any) replaced. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. F 44

30 STOCKS of BEES, Heather Honey-Press, Extractors, Honey-ripeners, Hives, Crates, Smokers, Feeders; large quantity of other appliances for the Apiary, will be sold by auction at Laurencekirk, on Saturday, 11th May, at 2 o'clock. GEORGE ROSS, Auctioneer, Laurencekirk, N.B. F 37

SPLENDID Retriever DOG FOR SALE. Smooth coat, ready for breaking, 40s. JAMES WALLACE, Bramhall, Cheshire. F 33

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Rev. C. BREERETON, Pulborough, Sussex.

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

25TH YEAR.—STOCKS, wired frames, three, 12s. 6d.; six, 16s.; eight, 18s. Skeps, 10s. 6d., 12s. 6d. Swarms booked. Packages free. ALSFORD, Expert, Blandford. F 25

NUCLEI and STOCKS of BEES headed by prolific queens, common, home-bred Carniolan or Italian. Pure extracted honey. E. WOODHAM, Clavering, Newport, Essex. F 3

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. F 71

Editorial, Notices, &c.

"THE IRISH BEE JOURNAL."

We have received a copy of the above-named journal, the first number of which has been recently issued as "A Monthly Journal devoted to the Interests of Bee-keepers in Ireland." Our new contemporary is also "The Organ of the Irish Bee-keepers' Association."

Except for being somewhat smaller in size, the new journal bears—in wording of its title-page and the general arrangement of its several departments—a flattering resemblance to our own journals. Indeed, we are pleased to see that the editor of the new bee-paper is not unwilling to adopt arrangements which have in our case worked satisfactorily for many years past.

Coming to the actual "contents" of the first number, we have nothing but words of approval. The several articles are in tone and substance such as all good bee-keepers will approve. And as the paper is the property of the Irish Bee-keepers' Association we have no doubt that its best features will be retained. We gather from the editor's introductory remarks that the journal has been established to "advance the interests of apiculture in Ireland," and further on he says:—"It will seek always to be a *help*, and it will encourage *self-help*." In view, then, of the admirable standpoint thus taken up, we shall not be misunderstood or misconstrued in saying that we are not sorry that the application to the Irish Board of Agriculture for financial aid in carrying on the new journal cannot be entertained by the Department. To quote from the report of the I.B.K.A. (page 9):—"The Department, while offering to print occasional leaflets for the Association, are not prepared to make a grant towards the *Irish Bee Journal*." As already stated, we do not regret this refusal. To have a bee journal subsidised, or in part supported from the public funds of the country, would be subversive of all precedent in this kingdom, and would, moreover, in our opinion, tend to put a damper on the enthusiasm for the craft by which all good bee-keepers are animated. They would, unless we are mistaken, feel less interest in a paper for which they are only asked to pay the not extravagant sum of one penny a month, than in one presented to them gratis. And so we echo the Rev. Editor's cheery words when he says, "The journal has come to stay. It must be a grand success." He also says, "On page iii. will be found a subscription form. Let every well-wisher fill up and return the form, and induce his friends to do the same." Well, in addition to our "office copy," we have cut out and filled up the form for sending the I.B.J. to our Senior Editor in California; and we hope Irish bee-keepers throughout the Green Isle will follow our example by subscribing. Can we say more in the way of a hearty and practical "send off"?

SHROPSHIRE B.K.A.

The annual general meeting of the Shropshire Bee-Keepers' Association was held in the Mayor's Court, Shrewsbury, on Saturday, May 4, when there were present Miss M. E. Eyton, Miss A. Downward, Messrs. Roff-King, T. R. Horton, W. H. Browne, A. Beale, J. Bradley, P. Jones and J. Hammonds, J. Carver, R. Holland, J. Clay, B. R. Croxton, S. Cartwright, hon. sec., and others. Mr. Roff-King was unanimously re-elected chairman, Miss M. E. Eyton, hon. treasurer, and Mr. S. Cartwright hon. sec. for the year. The report for last year stated that a most satisfactory show had taken place in August last (in conjunction with the Shrewsbury Floral Fête), both in number and quality of entries of honey, wax, and appliances of all kinds. The financial condition of the Association was also improved, and the debt owing to the hon. treasurer had been slightly reduced. The committee hoped that for the sake of the cottage bee-keeping industry in the county any persons interested in the subject would give in their names as subscribers or members of the society to the hon. secretary, Mr. S. Cartwright, Shawbury, Salop, who will forward all information, &c. The report having been passed, it was decided to hold the annual show, as usual, in conjunction with the Horticultural Societies' Great Floral Fête, in the Quarry, Shrewsbury, in August next. The following were appointed to serve on the committee for 1901:—Miss A. Downward, Messrs. J. Bradley, W. H. Brown, A. Beale, J. Carver, J. Clay, B. R. Croxton, P. Graham, J. Hammond, P. Jones, E. Oakes, and T. Whittingham.

The meeting concluded with votes of thanks to the officers for their services during the year.

STAFFORDSHIRE B.K A.

ANNUAL MEETING.

The annual meeting of the members of this Association was held at the County Technical School, Stafford, on Saturday, the 27th ult., Mr. W. G. Bagnall presiding. In the course of a short address the Chairman said the exhibition of honey at the County Agricultural Show at Stafford last year was one of the finest ever held in the county. The balance-sheet showed a deficit of £8, but it was stated that out-standing subscriptions more than covered the debit balance. Mr. A. H. Heath was re-elected president, Mr. E. E. Crisp hon. secretary, and Mr. R. Cock the expert. The latter gentleman gave an address on the management of frame and skep hives, and on marketing the honey so as to secure the highest prices.—(*Communicated.*)

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of April, 1901, was £3,424.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Obituary.

Mrs. W. Broughton Carr, wife of the co-editor of the BRITISH BEE JOURNAL and of the *Bee-keepers' Record*, died at her residence, Morley-road, Lewisham, London, on the 2nd inst., aged sixty-two years.

Mrs. Carr took the liveliest practical interest in her husband's bee-work, particularly during their residence in Cheshire, when for over twenty years the greater part of his leisure time was occupied with a large apiary. Nor is it generally known that the series of short articles entitled "About Bee-keeping: by the Wife of a Bee-keeper," written for the *Co-operative News*, are from her pen. These articles took the form of letters to a friend, and were intended to promote a love of bee-keeping among women. They were reprinted by request in the BEE JOURNAL ten years ago, and aroused some interest at the time especially among our lady readers.

Though not very strong for over a year past, it was not till December last that the serious breakdown in her health occurred from which she never recovered, the end coming suddenly at last from heart failure.

A devoted wife, an ideal mother, and an attached friend, her unobtrusive goodness made her loved by all whose privilege it was to know her, and it is an exceeding comfort to us that after a trying illness she passed gently and peacefully away in the arms of her daughter, full of the simple Christian faith that guided her whole life.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4352.] The month of May has been so far fairly good for the bees in this neighbourhood. After a few days of dull, showery weather, it has, on the whole, been favourable, two good bee-days occurring on the 11th and 12th. Wild cherries, early sycamores, and myriads of dandelion blossoms have afforded good forage, and now the hop-clover is coming into bloom, along with a few patches of turnip or rape left for seed by the farmers; the sainfoin fields, too, never looked more promising. Thus we are every day getting more into the bee season. Swarming will be in swing shortly, and we shall hear of the "early swarm" coming off in some sheltered nook, and the local newspaper will record the "First Swarm in the District" as a month previously it recorded the first note of the cuckoo. We who are located on higher ground have, however, to "bide a wee" before our first new century swarm comes off. In this matter, too, it often happens that those who pay no attention to their bees will be before us with the first swarm of the year, and then they do not forget to give forth the usual "wise" words—"Oh, bees be best if left alone! So much of this messing about with 'em doant get 'em no forrader." The painstaking bee-man can only allow such utterances to pass unanswered, and look forward to his "take" when compared with that of the let-alone bee-man's at the end of the season.

Frames.—Those who would like to prevent propolis and brace-combs or to avoid risk of having brood-combs built thick in one part and thin in another should have the top-bars of their brood-combs 1⅛ in. wide. The ordinary standard frame is, in my opinion, not wide enough to prevent brace-combs, &c. In going through my usual "spring cleaning" of hives I noticed that in nearly every frame with wide top-bars and side pieces the combs are nearly as flat as a board, but in frames of ordinary width it is not so. Another point in favour of the wide top-bar is the absence of little "lumps" of wax on the top of frames

which require removing before packing for winter, or before the racks of sections are put on. These lumps of wax are, as all bee-keepers know, in evidence often in quantities with the standard frame, but those who have adopted the wider standard frame know that the bees do not fill up the space between top of frames and bottom of sections with brace-combs as when narrow top-bars are used.

Preparing for the Harvest.—This is, or should be, the order of the day where a good number of section racks have to be got ready. Do not leave it till white clover is in bloom before waking up to the necessity of preparation. Start now, so that when the time comes all is ready. A few hours will suffice to place a good number of boxes of shallow-combs or racks of sections on the hives. Order new goods if not already on hand; get your skeps out of the musty storeroom or dusty hay-loft; clear away the cobwebs and give them an airing in the sun; this will sweeten them up ready for hiving the swarms. We always use skeps to take swarms with, and in the evening then either put them into frame-hives, or pack in travelling boxes for sending to customers. A straw skep is the handiest receptacle I know of for the job; the straw gives a good foothold for the bees—far better than a wood box—and with care will last several seasons.

Long-tongued Bees.—This subject has been discussed in the American bee papers, and I notice Editor Root has given a note of caution to "go slowly," and not expect too much along this line until more experience has been gained. The bees with the longest tongues will undoubtedly gather from red clover, while those whose tongues are shorter may not be able to reach the nectar in that particular blossom, and with very little other forage then in bloom the long-tongued bee would continue to store, while those of the short-tongued strain would perforce lay idle. Dr. C. C. Miller also notes in *Gleanings* that other characteristics besides length of tongue may account for one colony doing better than another, viz., "industriousness"; yes, and that is my own opinion. Let us leave to the experimentalist and careful scientific investigator the working out of the problems how to lengthen the bee's tongue, and how to shorten the tubes of the red clover bloom, while we address ourselves to the improvement of our stocks by breeding queens (*and drones* also) from the most industrious stocks we have—queens from the early morning "hustlers," and drones from the untiring evening workers. In every apiary of any size these stocks are to be found. From such we may reasonably expect to improve our strain of bees, and then leave our craft in a better condition to prove itself a useful auxiliary to the income, if not the main plank on which to venture in obtaining a living for the bee-keeper. — W. Woodley, *Beedon, Newbury.*

BEES ROBBING IN SPRING.

A RECENT EXPERIENCE.

[4353.] I note that your correspondent "J. A." (4347, page 182) refers to "bees robbing in spring," and after describing an occurrence in his apiary wondered what was the reason of the strange behaviour of the bees. Having had an exactly similar experience, I believe I can throw a little light on the matter. On Monday, May 6, I overhauled my thirteen hives, took off candy-boxes (placed on top of hives early in March) from which I got 3 lb. of splendid *new honey* similar to the sample I sent you in April, 1900. The following day I paid a visit to the hives, and was surprised to see the bees of one hive in the centre of the apiary rushing out as if about to swarm, as I thought at a first glance, but realising in a minute or two that this was not the case, it occurred to me that they were being "cleared out" or robbed, but on a closer inspection to see if this was the case, I quickly concluded (having been in the midst of similar battles on previous occasions) that my second thoughts were again beside the mark. I then put my wits to work to find out really "what was up," for there could be no doubt that something unusual was going on, or why should there be hundreds of bees hovering in front of this hive while all the others were in a normal condition? At last I hit upon it. This hive was one from which a swarm had issued last year, and, having no stand ready at the time, was placed on a board flat on the ground, the swarm being set on the old stand. The day before, when overhauling my hives, a new stand was placed under this one, which raised the entrance about a foot higher from the ground than it stood previously. The cause of the tumult now seemed clear, and, on watching closely, I found that the bees were much puzzled in finding the new entrance; but after a day or two they located it at once on arrival, and the hovering in front of hive ceased.

Your correspondent says he "contracted the entrance to an inch in width," and I have no doubt had he enlarged it to the same width as at first instead of still further closing it (provided he had not moved the hive from its old position) he would have seen matters quiet down at once.

Allow me to thank Mr. Rymer for his reply to my letter *re* "adapting-board and pollen-clogged combs," though he misread my remarks about the plinths. I did not state that plinths were placed round the adapting-board itself, but round the bottom of lifts placed above the body-box in single-walled hives. I must say that I still think it a defect in his system to advocate the storing away of combs full of honey through the winter. I do not know the number he stores away, but to take the frames of, say, five hives only, we have fifty combs, with probably an average of 3 lb. of honey each at a low esti-

mate; this amounts to 150 lb. of honey lying idle. I admit these standard frames can be given to weak colonies in spring, but shallow frames full of honey cannot well be so utilised.

I am situated near heather, and it is an unknown thing with me to have weak colonies in spring through lack of stores, and in all my hives that I looked through on May 6 the combs were slabs of honey, as I never extract from body-boxes.—BRIDGEFIELD, *Carmarthenshire, May* 11.

BEES TURNING VICIOUS.

HOW I CURED THEM.

[4354.] With reference to query No. 2643 (page 188), may I say that only once in eight years' experience have I failed to subdue a stock of bees, and I cured the vicious propensities of the unruly hive as follows:—

Providing myself with an ounce or two of sulphur in an old sardine-tin, I went to work after dark, also taking with me a lantern and spare candle-end. First I spread a sack flat on the ground three or four yards in rear of the hive. Then lifting the brood-box as quietly and quickly as possible off its stand, I placed it on the sack. I next lighted the sulphur, placing the candle-end among it (also lighted) on a piece of broken tile. Meanwhile the bees had been issuing in hundreds and attacking my lower extremities without mercy. As soon as the lighted candle (on old stand) became visible they went for it in a cloud, and between myself—armed with a flat stick—and the burning sulphur several hundreds soon lay dead on the field of battle. Every bee that had ventured to fly at such an untimely hour was speedily killed, and after clearing away all traces of warfare I replaced the body-box carefully on its stand. A very few days afterwards I found this stock as amenable to reason as any of the others and they did not trouble me again.

My own explanation would be that the process described had brought about the desired remedy by securing the extermination of the older and more vicious bees.—A. ROYDS, jun., *Soberton, Hants, May* 13.

BEES ON THE WING.

AN INCIDENT AT THE MOORS.

[4355.] As the time again approaches for taking bees to the heather, perhaps the following incident, which occurred to myself and a friend last year, may be of interest to your numerous readers. First let me say, by way of preliminary, I am no journalist, only a farmer, and my friend a shoemaker. We set out for the moors early on the morning in question, our load consisting of fourteen frame-hives, and reached our journey's end all right. On arrival, however, we found a man on the ground close to our stand already unloaded and ready to liberate his bees, and the first greeting we got from him was, "Look sharp! I don't want to stop here all day (it was then 6.30 a.m.), and get that horse out of the way, as I want to liberate my bees." Notwithstanding the not over politely expressed "order," we drew our waggon up alongside the stand, and got all the hives safely set up with as little delay as need be, and this done, I took hold of the horse by the neck to lead it out of harm's way. It so happened, however, that I had hung the reins over the brake at one corner, and as I chanced to pull rather to the opposite side, it so tightened the reins as to cause the horse to step back quickly right into the bee-stand and thus knock down the whole of the hives! The horse tripped itself with the stand and went down among the wreckage, kicking about violently. One hive rolled down the hill, another had its top knocked clean off, and a third was broken into chip-wood, and from several others the bees were escaping. My friend got out his knife, and quickly cut loose the harness in which the horse (a valuable one) was entangled, and we got the animal up and liberated from the waggon and made off as fast as we knew how. The horse was got into a cowhouse, and I need not say we shut the door without loss of time. This done, we had time to look at the bees, and the sight for a bee-man was one not soon to be forgotten. The bees wheeled about in the air overhead like a flock of plovers, and we dare not go near the hives for a while. However, we ventured at last to set about putting things right after having donned veils, &c. The air was full of bees bent on vengeance! I will not detail the various items which went to make up a big total of "stinging" mishaps. The bees vented their wrath on all and sundry, from the old collie dog that came to look on, to the small boy with an "inquiring mind" and the farm woman inspired in the same way with a desire to know what it was all about. They soon made off without more knowledge of bees than an acquaintance with their "business ends." My friend, too, though a bee-keeper himself, unfortunately wore low shoes, and in consequence exposed his stockings to the bees, and used language more strong than polite. It was several days before he could get his boots on.

The net result of the smash was a total loss of one hive and its bees. Strange to say, the horse seemed none the worse, and we could not tell for certain that it received a single sting. I may also say the other hives all did very well, and we hope to again make the journey to the moors with our bees this season, when we expect to profit by the above experience; for it will be a lesson to us to be more careful in all we do until the hives are safely planted down on their stands, so as to avoid so unpleasant a predicament as I have endeavoured to describe.—J. J., *North Yorkshire, Darlington, May* 11.

HONEY FROM JAMAICA.

[4356.] On strolling round the Exhibition of Jamaican Products (held in Bristol last month for the purpose of bringing before the public the variety of goods brought over by Messrs. Elder, Dempster, & Co.'s new line of direct mail steamers from Bristol to Jamaica), Mr. H. M. Chevallier Cobbold, Commercial Delegate, drew my attention to some samples of honey. The first things that would strike the casual observer was the beautiful colour of the honey and the artistic label on the bottle. It was not a label covered by flowers in print, but in bold type printed in three colours on a ribbon design, making it very attractive. But the bottles spoilt the whole thing; these were in shape like those used for whisky, holding about 1½ pints. This shape of bottle at once made the bee-keeper wonder what would happen later on when the honey became granulated.

A few large barrels of honey were also sent over on commission; these were not welcomed by our local bee-keepers, and it was amusing to hear how they ridiculed the idea of importing honey from Jamaica. They probably remembered they had plenty of home-grown honey that they could not get rid of, simply, as I thought, because it was not put up in attractive packages. Bee-keepers' Associations will, in my opinion, be doing more good by finding a market for bee-keepers' honey than by sending out experts to visit members. Wherever there is demand supply will follow, and bees will be in the hands of men who understand them instead of a lot of novices who get the bee-fever, start keeping bees, and then give up the Association, let their bees get foul brood, and refuse to destroy them.

The sample herewith was taken from one of the bottles labelled "Log Wood Honey" and placed on the table at the last Committee meeting of our Association. The Council, after inspecting the sample, came to the conclusion that we had nothing to fear if only the British housewife was educated up to being able to distinguish between good honey and an attractive package. We would like your views on the quality.—JAMES BROWN, Hon. Secretary, Bristol District B.K.A., 31, *Bridge-street, Bristol.*

[We have no knowledge of "Log Wood Honey," and should have named the sample as mainly from white clover, though lacking in the distinctive character of clover honey. Regarding associations and their work, we shall be glad to hear how the Bristol B.K.A. improves on ordinary methods?—EDS.]

CHANGING QUARTERS.

TAKING A LESSON FROM THE BEES.

[4357.] Six whole months away from my bees have convinced me of the truth of the saying that "We never know how fond we are of a thing till we have lost it." Happily my loss was of a temporary nature, caused by business matters compelling me to leave my post in Warwickshire last November and to take up one in Wales. Now, May has come, and with it my bees, kindly packed and sent on to me by bee-keeping friends left behind. I wonder if the bees feel as I did, that they are "strangers in the land," and that it is hard—aye, very hard, to "buckle to" the work in front of one! Will they notice the wonderful scenery here—the lofty mountains kissing the clouds, the endless waterfalls rushing down to the river far beneath? I wonder, too, if they miss "leafy Warwickshire" as I do, the cosy looking homesteads and cottages, and the well cultivated fields! Just think of their experience—a long and tiring day's work done, the little labourers are just settling down contentedly for the night's rest, when there comes into their midst the suffocating smoke! Fright soon gives way to anger, but skilful hands have done their work and the bees are fast prisoners.

At the first dawn of day a fruitless effort is made to find a way of escape, but soon they feel themselves lifted up and driven along a shaky road; soon they are in the train. The air is close and hot; the bees crowd madly to the air-holes; many are suffocated; but anything for fresh air and to be free from this "black hole of Calcutta!" For two whole days the same, only the deaths more frequent.

But at last they are in Wales, and soon the lid is off, and the blessed air of heaven rushes in. The poor bees are quite peaceably inclined—no thought of revenge—only one of happiness at again being free, at again seeing the light of the sun. The corpses—alas, how many there are!—are hurriedly removed, and floorboard swept clean. No useless repining here; there is much to set straight. Of what use to waste time in sorrowing for the past or for what is left behind? The summer is coming; there is work to be done; there must be no delay in doing that work. Nor was there any delay. What a lesson to me! What a lesson to all, when troubles and difficulties come thickly, and we are inclined to throw up the sponge, to think it is all no good, and that we may as well give up our efforts! Let us take a lesson from the bees—their one idea to "do the work that is nearest." May one and all of us do our best to imitate them, "though it is hard at whiles."—*Cardiganshire, May* 4.

RENDERING OLD COMBS.

[4358.] I was again amused at Mr. Rymer's plan of rendering old combs (4342, page 172). Happening to have four pollen-clogged combs by me, I put them in my "potato steamer," as described by myself (4331, page 156), and herewith send you sample of the wax and what is left of comb after removal from "steamer" for your opinion. On carefully

weighing, I found about 6 oz. of wax like sample from the four combs; the combs, as you see, falling apart at the midrib. I tried the "messy job" once of boiling in "the wife's" washing copper! The oven plan leaves no waste and makes no mess.—A. H., *Wavendon, Bucks, May* 13.

ANCIENT BEE-BOOKS.

"Apiarium or a Discourse of Bees: Tending to the Best Way of Improving them, and to the Discovery of the Fallacies that are imposed by some, for private Lucre, on the Credulous Lovers and Admirers of these Insects. Written by J. W., Gent.

"London, Printed for and sold by Thomas Dring, Bookseller, at the Sign of the Harrow, at Chancery-lane-end in Fleet-street, 1676.

[Octavo. Frontispiece: a colony of three tiered boxes in a half-open triangular bee-house, under an apple tree. Bees flying.

Re-issued in 1678 as part of second edition of "Vinetum Britannicum," by J. Worlidge. Third edition, 1691. Finally reprinted in 1698 as "The Compleat Bee-Master," &c., price 6d.—S. D. E.]

[4359.] John Worlidge resided at Petersfield, in Hampshire. The first work attributed to him is "A Speedie Poste, &c., now published for the helpe of such as are desirous to learne to write letters, by J. W. Gent," a curious little book in black-letter, 1629. The "Vinetum Britannicum" treats of cider and home-made wines. Worlidge is best known for his "Systema Agricultura," for some time a standard work on husbandry.

The "Apiarium" is the work of an old-fashioned bee-keeper not blind to new improvements but favouring the past; with a great admiration for Butler, by this time out of date; and not disinclined to believe in ancient fables, such even as the self-generation of bees in the decaying carcasses of cattle. For all this, Worlidge had tried a hive after Hartlib, and now used wooden boxes of his own device on the nadiring system. These increased gradually in size, the smallest being 12 in. square by 8 in. high, inside measurement; open at bottom, a glass window in each side, and a door 3 in. by $\frac{1}{2}$ in. in each of two adjacent sides. This box being stocked with a swarm was to be placed on a stand in a bee-house facing "arras-wise" (arris-wise, *i.e.*, angle-shaped) towards the South, "so that when the hive stands with one door towards S.E. the other may be towards the S.W." Sticks might be fixed inside the box from top to bottom for supporting the combs only. "Nor do you feed yourselves with vain imaginations that they will fix their combs to frames of your Fancy, nor work when and where you please."

The next box, to be placed underneath when wanted, was bigger, but not higher, with a hole in the top and twice the number of doors and windows. "And in like manner other boxes, always increasing the number of glass squares and doors proportionable to the breadth of your sides, and so may you increase your boxes until you find the Bees at a stay. And then it is best to take them by the usual way of Smothering by the fume of Brimstone. . . . For let not anyone imagine that their Honey can be taken from them and the Bees preserved unless by some sort of driving, mentioned by Butler in his 'Feminine Monarchie,' which also are not commended."

It should, perhaps, be pointed out that in the Milanese Catalogue of Bee-books recommended by Mr. Drory (4210) last January, the compiler, deceived by the initials "J. W.," and regardless of dates, attributes Worlidge's "Apiarium" to Joseph Warder. — South Devon Enthusiast.

AN OLD-TIME BEE-MAN.

2.—THE HOME OF THE BEES.

[4360.] It lay right at the foot of one of our giant Bens, whose granite form towered aloft in picturesque grandeur. Some irregularity in the formation on the southern side of its lower slope, where it debouched on the great glen lying below, had allowed a deposit of the latter Sandstone period, and denudation, acting on this softer strata, had scooped out in the course of a small stream a deep ravine, whose steep sides in places were roughened with grey, worn, and weathered projections of schist and granite. At one point it towered in a precipice, with huge boulders "perilously poised," where the stream, with its ceaseless excavation, wore down the steep hillside; at another erosion had caused a gentle slope, and, aided perhaps by the action of ice, had planed down the sides smooth, removing the rough irregularities. All this had happened in prehistoric times, and now the sides of the den were covered with a glorious mantle of trees, shrubs, flowers, and ferns, all combining to make it a scene of sylvan grace and loveliness. It was a rustic woodland wild, with the brook ever winding in mazy convolutions through the soft, shady dell opening up into a pleasant valley and a green retreat as it wound its way to the noble river down in the great stralk below. The mighty Ben protected it from the north wind, and Boreas dealt kindly with its charming shades, so that it could be said of it, as in the case of Craigielea:—

"Winter lightly skiffs thy bonnie bowers,
As laith to harm a flower in thee."

The sweetest spot in all the little glen was just the nook which my "man" had selected as the home of his honey-bees and his own home. It was a quiet place far from the busy haunts of men. Further up the brook had fretted its way and sent its troubled waters pouring down a rocky lym, but at this point it went winding and wimpling adown the dewy glen singing a soft and amorous lullaby. Nor was that the only sound which disturbed the quiet solitude, for the whole wood was amorous of song.

Mayhap, on the heights above, the wild

scream of the curlew broke shrilly on the ear, and on the further side the corncrake's solitary, dissonant note was heard, monotonous and harsh to us, but no doubt to its mate sweet as the coo of the most loving ringdove. These were but interludes, but down in the "bughted glade" the solitude but enhanced and added to the many sounds, forming a "wilderness of harmony." There, in the lone depths of the deeper thicket, the "cushat croodles amorously," while up in the lift aboon at heaven's gate the laverock (lark) lifts his lovely song "the lee lang day"; the mavis warbles her sweetest melody and "gars echo ring frae tree to tree"; the blackbird trills his merry notes; and the thrush pours forth a flood of music, singing his song a second time—

"Lest you should think he never could recapture
The first fine careless rapture."

The eye too, as well as the ear, had its full flood of admiration as it feasted on a forest of bloom. The rowan tree decked the steep slopes with its flowers, which were the summer's pride, and its "bonnie berries red" shone gaily, adorning the craggy scaur with jewels fit for a prince; the very memory of them is dear to me! The gean (or wild cherry) showered its lovely, if evanescent, spray all around; wild apples scented the air with their charming blossoms; the wild rose, "The bonnie briar bush" of song and story, spread a perfume equal to that of Araby the Blest, while its colours rivalled, if they did not excel, the favoured fruit of man's culture in the gay garden parterre. The vivid red of the holly berries and the rich yellow of the laburnum tree were intermixed with luxuriant growths of the prickly gorse (our Scotch whin), whose "everlasting" flowers displayed the same hue as its lovely twin sister, the yellow broom, profuse in its growth and lovely in its profusion. Then there was the pure and delicate white of the hawthorn flowers that open with the opening summer:—

"And the fragrant hawthorn brambles,
With the woodbine alternating,
Scent the dewy May."

Flowers were, indeed, everywhere. Blue harebells waved responsive to every gentle breeze; fox-gloves raised their stately heads and noble forms; wild thyme scented the gale. In early springtime the wild primrose spread a sea of bloom, and later the buttercup, "the children's dower," coloured the green verdure with its golden sheen; the blue eye of the violet, as its odour, was everywhere; lilies, "fair among the fairest," nod their sweet heads, and, of course, the daisy, or gowan, is ubiquitous. Why dwell on them, further for their name is legion. But the bees, they must not be forgotten. Behind rose the Ben, seamed and scarred and chasmed, with here and there a deep ravine, but mainly its huge form rose as a gradual swell, or rather swell on swell, and its surface was all one uniform wealth of glorious purple sheen—a vast and illimitable sea of bloom, an ocean of heather, leagues and leagues of it scented like a honeycomb, a joy to breathe! What riches were there, and all allowed to waste its sweetness on the desert air; for all the wealth of bloom was dissipated year by year for lack of willing tongues to suck it up. Then in the earlier days of summer what a rich profusion of pure and spotless bloom those fair fertile fields, stretching for thousands of acres away to the sight, displayed to glad the eyes of a true bee-man—a perfect carpet of bloom, smelling sweet, and redolent of richest luscious nectar ready to be gathered, manufactured, and stored by thousands of busy workers as food fit to be placed on the table of a king! Yet again there was a further store. To the right there lay one of the stately homes of Scotland, a baronial pile. Little recked our little friends how fair or grand it was, but well they knew of one sweet spot, where the lime trees grew—the Lime Tree Walk. Ah, those noble lindens! What a glorious shade they formed with their grand and stately branches meeting overhead and forming a cathedral aisle nobler and more imposing than any work of man! Especially in those days of late July were they worthy of a visit. One could saunter under their leafy shade in bowers of verdant green, or lie reclined on a carpet of verdure, content to dream life's fleeting hours away. And well the bees deemed them worthy of a visit, for they seemed to "drip" honey for their busy tongues to suck. What a lullaby it was to listen to that glorious and almost overpowering mirth-millioned hum blending in one sweet harmonious anthem of thankfulness and gratitude! The spot was an ideal bee-man's paradise, and it was no wonder my old friend made his bee-keeping pay. —F. E. I. S., *N.B.*

(To be continued.)

Queries and Replies.

[2645.] *Dealing with Foul Brood.*—Some time ago a gentleman asked me to examine his bees. I did so on March 13 last. We found one hive queenless and containing very few bees. Those we destroyed; but as I was told there had been no disease in the colony, and the combs contained a good lot of honey, we shut the hive up tight, as we thought, to protect its contents from robbers. Another lot was affected with foul brood, and in consequence the bees, combs, &c., are burned. Two out of the other three stocks showed slight signs of "F. B." of old standing. I was told the bees were found to be diseased last summer, and had been treated by the county

expert. The stock had also been fed with medicated syrup last autumn and again this spring. I removed all signs of disease that I could find, and thought that as food was medicated and plenty of disinfectants were being used, they might come out right. I then sold the gentleman three stocks of my own, which I firmly believed to be quite free from disease. I knew of none, and I should certainly not sell diseased bees knowingly. Those three stocks were delivered on March 29. On April 12 I again examined the whole of the stocks, and found very slight signs of "F. B." in two of the original stocks; the other four seemed quite free. On the 10th inst. I found five out of the six hives affected. Three of them I have treated as per "Guide Book," burning frames, combs, quilts, &c., and disinfected hives with a painter's spirit lamp. Two of those that I sold him were not so bad, and as they are both strong lots I treated them with phenyle spraying. There seems to be not more than one cell in a hundred affected. I have cut out the worst piece I could find and forward on to you and will you please say:—1. Is the stock from which sample is sent fit for treating with phenyle? 2. Could the bees have become affected with disease and got so far on in the time (six weeks)? I find that the bees got at the honey from the hive found queenless through the cover being removed in my absence. 3. How long does it take foul-brood to reach the bacillus stage? 4. How long does it take to affect a cure with phenyle, and how often should I use the spray?—G. G., *Cornwall.*

Reply.—1 and 2. Comb sent is full of healthy-looking larvæ in all stages of development up to sealing over; none is turning black and none yellow. It would appear as if the brood was alive when comb was removed. We found no trace of disease. 3. This is the first stage. 4. Use as directed in "Guide Book."

[2646.] *Imperfectly Capped Combs.*—I am forwarding piece of comb, and shall be glad if you can tell me what is the cause of the cells being left so uncapped by the bees? I have found the same thing in hives in different parts of our district this season.—Weyside, *Woking, May* 11.

Reply.—The peculiar appearance of the imperfectly capped cells—full of normal brood—is most probably due to overdosing with some remedy used against infection from foul brood. Send us particulars of what has been done in this way, and what preventives have been used, when we will reply further.

[2647.] *Wax-Moth.*—In your reply to my query *re* wax-moths, on page 189, you advised me to destroy the combs infested by the moths, but, being only last year's combs and nicely "wired" in the frames, besides not being very "badly infested," I ventured to fumigate them well, and I intend to store them in a box and keep an eye on them. 1. Did I do right? 2. How can I prevent moths again attacking the combs, as I had stored them in a box I had thought moth-proof?—Busy Bee, *Caerleon, May* 11.

Reply.—1. Yes. 2. By storing the combs away as soon as removed from the hives, and making the store-box really moth-proof. With plenty of old newspapers and a little flour-paste this is an easy operation.

[2648.] *A Lady's Queries.*—1. How should I treat a parent stock after swarming? Has it to be fed? 2. Is it right to put a rack of sections on to a parent hive immediately after it has sent out swarm, or, if not, how soon after? 3. Should sections be filled with full sheets of foundation?—Flora, *Whitfield, May* 11.

Reply.—1. No, unless swarming occurs early and in a season of great scarcity. 2. No. It is not always wise to give any additional surplus-room to a hive after it has sent out a swarm unless there are several weeks of the honey harvest still in front of the bees. 3. Not necessarily, but most bee-keepers give full sheets as being advantageous in the line of yielding more profit.

[2649.] *Dealing with Foul Brood.*—On looking through my hives to-day, I found, to my disgust, that about twenty-five out of twenty-nine were more or less affected by foul brood. It must have developed very rapidly, as when I examined them a few weeks ago all the brood seemed quite healthy. It has attacked two or three hives which I had cured last summer, and which were quite healthy in the autumn. Unluckily, I am starting for Germany on the 14th inst, and they must consequently be left for two or three weeks. As many of them seem quite strong in spite of the disease, I have supered them on the chance of their gathering surplus; also given strong doses of naphthaline. Under the circumstances I shall be grateful if you will advise me through the columns of B.J.:—1. Whether, on my return about June 2, I had better artificially swarm all the diseased lots, starve them, and put in clean hive and feed on medicated syrup? or 2. If they seem strong and likely to gather surplus, leave them till, say, mid-August, and then treat as above? 3. In scorching with painter's lamp, should the insides of lifts and roofs be scorched as well as brood-boxes? 4. Is it necessary to disinfect all the supers and queen-excluders, and if so, how, when one has a large number to deal with? 5. Is a microscope, magnifying 420 diameters, sufficiently powerful to show the bacilli or spores of foul brood? 6. What is the best and cheapest material to buy for cutting up into quilts, for all the year round—I shall require a good deal if I destroy so many lots?—Cantab, *Cambs, May* 11.

Reply.—1. Such colonies as have been supered might be examined on your return, and if storing surplus, should be allowed to remain till the honey season begins to fail. Then start proposed steps for *curing*. 2. We should

not defer remedial measures a day longer than the time when the main honey-flow *begins* to fail. If left till mid-August, bees will be on the alert for plunder, and so increase trouble in feeding-up. The point is to give the bees operated on as long a time as possible to draw out combs and fill and seal them over with food before cold weather sets in. 3. Only the internal parts of brood-chamber and floor-board need to be scorched. If all outer-cases, roofs, and stands are washed well with hot water, in which plenty of common washing soda is used, it will suffice. 4. Nothing less than a $\frac{1}{1000}$th objective is of any use in foul brood investigations. 6. The materials most generally adopted are the grey felt used as under-carpeting, or the thick felt used for packing steam boilers.

HIVES OF BEES IN BAGGAGE CAR KEEP TRAINMEN SIDESTEPPING.

TRAFFIC ON THE NARROW-GAUGE ROAD TO SAN RAFAEL TEMPORARILY DERANGED BY THE AGGRESSIVE INSECTS UNTIL A SMOKE BRIGADE MADE UP OF CREW AND PASSENGERS ROUTS THEM.

The above heading alone occupies about as much space in an American paper sent us as a full column of the B.B.J. It also affords an amusing example—for a people who love brevity, and have no time for "wordiness"—of skill in making a very elephant out of a small mouse.—[EDS]

Bees held a baggage car against all comers yesterday on the narrow-gauge road to San Rafael. Their aggressiveness came near tying up traffic for the day.

A resident of Corte Madera had two hives presented to him by a Mr. Norenson, of Baker-street, who had no further use for them. The Corte Maderan hired an innocent party, who did not know bees, to transport them from the city, where they had been licking a living off the syrup barrel at the corner grocery, to the country, where the orange and manzanita bloom.

The two hives arrived at the ferry in good condition, but with an ominous humming inside, which showed that the bees were putting themselves on a war footing.

A freight clerk, who had experience with live stock, refused to take them until the hives had been surrounded with a bee-proof net. By the time this was obtained and the bees secured within it, the man had lost his boat and the bees their temper.

Arrived at Sausalito, one of the honey-hunters got out and immediately had a rear-end collision with a trainman, who thereupon refused to take the hives on the cars unless still further safeguards were put about them. The result was the loss of another train by the man and the remainder of their temper by the bees.

When the train arrived at the station and the door of the car was opened, the bystanders felt like robbers when the trusty shot-gun messenger gets to work. The bees had the car and no one could get near it. They swarmed and buzzed and stung everything in sight.

The dispatcher finally ordered the train ahead and the bees rolled out in their private car. It was useless for train purposes and the conductor wanted to leave it at San Rafael, but again the dispatcher, who had a ten-mile reach of telegraph wire between him and the bee stings, ordered the car ahead with the train.

Conductor Brown is fertile in expedients, and advice was plenty. He organised a band of smokers; borrowed gloves and handkerchiefs with which to equip them as defensive armour, and then every man, with pipe or cigar alight, hands in gloves, and face masked with handkerchief, went gaily to the fray.

The smoke of battle and the roar of the angry bees were terrific. Conductor Brown, backed up by the smoke-blowing brigade, won the day, and the bees were put to rout and their hives bundled out after them.

The consignee is now laying low to avoid the wrath to come, the train men get mad when anybody imitates a man swatting bees, and the railroad has a new rule: "Bees will not be accepted for transportation."

WEATHER REPORT.

WESTBOURNE, SUSSEX,
APRIL, 1901.

Rainfall, 2·80 in.	Sunless Days, 3.
Heaviest fall, ·76 in., on 3rd.	Above average, 53·1 hours.
Rain fell on 16 days.	Mean Maximum, 52·1°.
Above average, 1·18 in.	Mean Minimum, 38·5°.
Maximum Temperature, 67°, on 24th.	Mean Temperature, 45·3°.
Minimum Temperature, 30°, on 1st.	Below average, 1·2°.
Minimum on Grass, 21°, on 2nd.	Maximum Barometer, 30·36°, on 18th.
Frosty Nights, 2.	Minimum Barometer, 29·45°, on 11th.
Sunshine, 231·3 hrs.	
Brightest Day, 26th, 13·4 hours.	

L. B. BIRKETT.

Bee Shows to Come.

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed** except for extra fee. Schedules from Edwin H. Young, Secretary, 12, Hanover-square, W.

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for

Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries close July 11.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Four prizes for Honey-Trophy, medals, and diplomas.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JAS. HAMILTON (Arran).—*Dead Bees Cast Out.*—We cannot possibly form any opinion as to disease or with regard to foul brood from having half a dozen dead bees sent. You need, however, have no fear for any of the stocks examined, seeing that "all contain brood in healthy condition." A few dead bees cast out need cause no alarm.

J. REEVE (Tring).—*Suspected Combs.*—Comb contains only mildewed pollen and a few adult bees. The hive has, no doubt, been packed for winter with a short supply of food, and the bees have died from starvation.

J. K. (Somerset).—Judging by comb sent, there has been no brood raised in the hive for some months past. There are traces of foul brood in the spore stage in one or two cells, but the other sealed cells are empty, all trace of former contents having dried up and disappeared. The stock has probably been queenless for a long time.

Suspected Comb.

VERONICA (Kingsbridge).—We only find signs of *overdosing* with some preventive in comb. No sign of disease.

*** *Several queries are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, CHEAP, land being wanted, 30 STOCKS BEES, many near swarming; will divide; also strong natural swarms. LINSTEAD, Garboldisham, Thetford. F 72

J. W. AVERY has FOR DISPOSAL 150 lb. SECTION HONEY, at a low price. Ripley, Surrey. F 56

TWO or three healthy QUEENS to dispose of, 3s. each. G. LEDGER, Weybridge. F 63

SWARMS, 10s. 6d. Order now. J. J. W. ROGERS, Heath Apiary, St. Albans, Herts. F 62

WANTED, "Cowan" HONEY EXTRACTOR. Full particulars to BRAYSHAW, Aultmore, Keith, N.B.

QUEENS.—1901 fertile and tested Queens, 5s. each. Virgin Queens, 2s. 6d. each. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

FIVE-FRAME CARNIOLAN HYBRID STOCKS, 20s.; 3-frame, 15s. F. REED, Bee Farms, Portslade, Sussex.

EXCHANGE rich toned old VIOLIN with bow in case for 50 lbs. best Honey, or three May Swarms. Dr. WALKER, Kirkby-Stephen. F 55

EIGHT CWT. good, sound HONEY, in 28-lb. tins, FOR SALE. Sample 2d. H. PENFOLD, Horton, Epsom, Surrey. F 68

Prepaid Advertisements (*Continued*).

PROLIFIC QUEENS; pure imported Carniolans 8s. 6d. each; Italians, 6s. 6d.; home-bred, 5s. 6d. E. WOODHAM, Clavering, Newport, Essex.

MAY SWARMS, 12s. 6d.; three-frame nuclei, 10s. Guaranteed healthy. AVERY, Ripley, Surrey. F 66

EXTRACTED ENGLISH HONEY, in 28-lb. tins, 4d. per lb. Tins free. Sample, 2d. RICHD. DUTTON, Terling, Witham, Essex F 64

SECTIONS, GRANULATED, three and four shillings a dozen. LING, Shady Camps, Linton, Cambs. F 70

WANTED, 100 SECTIONS of HONEY, at once. State price and number, to "S. B." *British Bee Journal* Office. F 58

25TH YEAR.—STOCKS, three wired frames, 12s. 6d.; six, 16s.; eight, 18s. Skeps, 10s. 6d., 12s. 6d., 15s. Swarms, 10s. 6d., 12s. 6d., 15s. Packages free. ALSFORD, Expert, Blandford. F 67

PRIME June SWARMS of healthy ENGLISH BEES, 10s. 6d., 12s. 6d., and 15s. each, headed with last year's queens. Packing and box free. W. WOODLEY, Beedon, Newbury.

NEW TALL 1-lb. SECTIONS, 100, 3s. 9d.; post free. F. SLADEN, Ripple Court Apiary, Dover. Complete catalogue (1901 edition) of up-to-date Bee Appliances and Specialities, price 2d. post free. F 59

SIX STOCKS BEES FOR SALE; strong, and well-wintered, in good standard-frame hives; all with Supers, &c., complete. LAIRD, Kirby Muxloe, near Leicester. F 57

BEEKEEPER'S STOCK FOR SALE.—Eighteen modern Wooden Hives; 15 Supers ready for hives; 2 Crates, each hold 1 doz. lb. jars; 12 straw skeps, waxer, smoker, &c. Price £10; cost £40. M. B., South House, Lancing, Sussex.

WANTED AT ONCE, young Man to work in Apiary. Must have knowledge of beework, but would always have to work under instructions; grand opportunity for a beekeeper's son. PERCY WILKINS, Wantage. F 65

WANTED, cheap, second-hand BEE APPLIANCES; Books about Bees. COOK, Schoolhouse, Chingford. F 52

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Rev. C. BRERETON, Pulborough, Sussex.

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

BEES FOR SALE.—A Gentleman, giving up bee-keeping, has twenty Stocks to sell; bar-frames and skeps. Apply, A. FURNIVAL, Fleckney, Leicester. F 45

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 10s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

GOOD light coloured HONEY, 1 cwt. at 5½d. per lb.; 1 cwt. 2nd grade, 4½d.; 2 cwt. of dark, 3d. per lb. all in 32-lb. tins. Samples 2d.; tins free. W. HAWKES, Barley, near Royston, Herts. F 51

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

NUCLEI and STOCKS of BEES headed by prolific queens, common, home-bred Carniolan or Italian. Pure extracted honey. E. WOODHAM, Clavering, Newport, Essex. F 3

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, May 16, at 105, Jermyn-street, S.W., under the presidency of Mr. F. B. White, Vice-Chairman. There were also present Major Fair, Messrs. J. H. New, T. S. Elliot, W. F. Reid, W. J. Sheppard, E. D. Till, E. Walker, T. I. Weston, and the Secretary. Letters apologising for enforced absence were read from Miss Gayton, Hon. and Rev. Henry Bligh, Messrs. R. T. Andrews, W. H. Harris, J. M. Hooker, and H. Jonas.

The minutes of the previous meeting were read and confirmed.

The following new members were duly elected :—Rev. E. R. Iremonger, Goodworth Clatford, Andover; John Rowlands, Maes Apiaries, Pwllheli, North Wales. Northumberland and Durham B.K A. (Hon. Secretary, Mr. Jas. Waddell, The Terrace, Wooler, Northumberland).

On the motion of the Chairman, seconded by Mr. E. D. Till, a vote of condolence with Mr. W. Broughton Carr and family, in the sad loss they have sustained by the death of Mrs. Carr, was unanimously passed.

The Finance Committee's report, presented by Mr. New, showed a bank balance of £99 2s. Several accounts were brought forward for payment, and the report approved.

The Secretary stated that since the last meeting further contributions to the Dairy Show prize fund, amounting to £6 5s., had been received. He also reported that 172 entries had been received for the "Royal" Show, Cardiff, being three in excess of the total for the York meeting last year.

Appointments of Examiners of third-class candidates for expert certificates were made, to officiate at Colwick, Notts, May 28; Bodmin, June 12 and 13; and at Reading, June 26. A number of candidates had also intimated their intention of presenting themselves at Cardiff during the "Royal" Show.

It was resolved to make a special effort to secure the formation of associations in counties at present without such organisations, and to assist the development of weak societies in every way possible.

The next meeting of the Council will take place on Thursday, June 20.

SURREY BEE-KEEPERS' ASSOCIATION

ANNUAL MEETING.

The annual meeting of this association was held at the Technical Institute, Redhill, on Saturday, the 27th ult., when there were present Mr. E. C. P. Hull, C.C., Messrs. H. Macan (organising secretary Technical Education Committee), W. Welch, C.C., R. C. Blundell, W. Oram, A. Seth Smith, W. F. Reid, C. T. Overton, N. Weise, C. E. Cuthell, T. Armstrong, R. Peter, J. Greenhill, J. A. Page, F. E. Whitelow, A. Caffyn, C. Bontoft, A. E. C. Mumford, and Mr. F. B. White (hon. secretary).

In the unavoidable absence of the president, Sir Percy Fielding, Mr. E. C. P. Hull, C.C., was voted to the chair.

The Hon. Secretary read the annual report, and, in proposing its adoption, the Chairman said he was glad to find that the funds of the Society were still in a satisfactory position; he also thought that one of the most important features of the report was the statement that 129 new members had joined during the year. With regard to "foul brood," he would say that, being a highly infectious disease, it was obviously of great importance that every effort should be made to grapple with it when found. Therefore, he thought the attitude of their Hon. Sec., Mr. White, with regard to the matter was very satisfactory.

Mr. Macan seconded the motion, and in doing so said he would like to mention that the grant to the Association of £150 a year from the County Council had again been recommended by the Technical Education Committee. The County Council had once more considered it right and proper to offer publicly its thanks to the Association for the extremely valuable work it had done in the county. But when the vote of thanks was being considered a very unusual thing happened. An amendment was proposed and carried, and that amendment was that the name of Mr. White (the hon. secretary of the Association) should be specifically added to the resolution.

The motion was carried unanimously.

Mr. Seth Smith, in proposing "a vote of thanks to the County Council for help in the past, and promises of help in the future," called attention to the fact that whereas the total subscription in 1896 only amounted to £73, and their membership to 240, they now collected £126 and had a list of 550 members.

Mr. W. F. Reid, in seconding the motion, said he came into contact with other county bee-keepers' Associations, and that of Surrey was always looked up to as the premier, both from the patriotic way in which the County Council supported them, and the way in which the work of the Association was carried out by their indefatigable secretary. They were able to send their experts all over the county, and it must indeed be a small district which was not visited by one of them at some period of the year. As to "foul brood," in 1896 8·3 of every 100 stocks were effected; they now found, with a larger membership, that the percentage was about 4·6. He hoped that this disease would soon be rooted out of Surrey. The motion was carried *nem. con.*

Votes of thanks were also passed to the Technical Education Committee of the borough of Reigate for the use of the room, and to

the retiring Executive Council and Joint Committee and officers for their services.

The following gentlemen were constituted the Executive Council for the ensuing year: Messrs. A. Seth Smith, R. C. Blundell, C. E. Cuthell, E. Daw, J.P., F. S Fletcher, G. C. Halahan, J. W. Lewis, A. H. Miller, W. F. Reid, W. Sole, E. A. Stopford, H. E. Taylor, E. Walker, A. Watkin, T. Welham, T. H. E. Watts-Silvester, and F. B. White.

After some practical and useful remarks, in acknowledging a vote of thanks to himself for presiding over the meeting, the chairman proposed a vote of thanks to the hon. secretary, Mr. White, and paid a high compliment to that gentleman's enthusiasm and interest on behalf of the society.—The vote was unanimously adopted. and Mr. White having briefly acknowledged the compliment, the meeting concluded.

TO OUR READERS.

PERSONAL.

The few words on page 192 last week have brought quite unexpected and gratifying letters of sympathy from so many readers as to make it impossible for me to reply to each as I could have wished It is not given to every one to experience over forty years of unclouded happiness with a companion whose tastes and habits are in such complete accord as ours were, and when this has become a closed book, so far as regards this life, kindly sympathy so abundantly shown as it has been, is very gratifying to me and mine. But in view of "work" that cannot be ignored, I am constrained to ask that this general acknowledgment will be accepted as expressing our very sincere thanks to all.

By way of "improving" the occasion, I would like to say that to my mind one of the greatest charms connected with bee-craft is the readiness with which friendship and brotherly feeling is generated under its influence. "Brother bee-keepers" has become a familiar term among bee-men, and I can safely affirm that no pursuit I know of could have created for me during the past thirty-five years so many warm and valued friends as I have gained through "the bees." It therefore seems opportune just now to say a word for our craft by way of enlisting recruits in the army of men who are lovers of nature and the joys of country life, and, above all, of their "home." Personally, I have—to use an apt metaphor—made a point of "striking a bee-line" straight for "home" so soon as the day's usual routine work was done. And this, too, ever since I attained to man's estate. I may also be pardoned for adding that love for bee-keeping as a home-hobby has done much in changing the whole course of my later life. When some eighteen years ago I made my first adventure in amateur bee-journalism in the north on the *Bee-keepers' Record*, the idea of ever being invited by Mr. Cowan to occupy an editorial chair at King William-street was as far from my thoughts as becoming Prime Minister. Moreover, I had in mind the jocular remark of a former B.B.J. editor (the late Rev. H. R. Peel), who said that "occasionally it took him all his time to keep bee-keepers from springing at each other's throats." Consequently, I felt as if embarking on a somewhat troubled sea in giving up an entirely different occupation in the north for journalistic bee-work in the south. Most probably the personality of our present Senior Editor had made itself felt before my time, but, however that may be, I can claim it as a merit for all to bear in mind—when asked to join the craft and become one of us—that it has brought me pleasures untold and made for me troops of friends whom I should otherwise have never known, and, as the past week has shown more, far more, than even I counted on, but whose kindness I shall never forget.

W. Broughton Carr.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c, must be addressed only to "The Editors of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to advertisements, &c., must be addressed to* "The Manager, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

DAIRY SHOW PRIZE FUND.

[4361.] Will you kindly insert in the B.B.J. the following statement, showing the total amount of contributions to the Dairy Show Fund to date, and oblige:—

	£	s.	d.
Amount already acknowledged	9	13	6
H. G. Morris	5	0	0
Hon. and Rev. Henry Bligh ...	0	10	0
Rev. E. R. Iremonger... ...	0	5	0
Jas. Lee & Son	0	5	0
Rev. R M. Lamb	0	2	6
J. Edwards	0	2	6
W. Winterton	0	2	6
Total ...	16	1	0

It has been decided to include at the Dairy

Show a class for 2-lb. sections of honey, and one for honey in sections (approximately 1-lb.) measuring other than 4¼ in. by 4¼ in. This information may be useful to those wishing to experiment during the present season, and desiring to enter in such classes.—EDWIN H. YOUNG, *Secretary B.B.K.A.*, 12, *Hanover-square, London, May* 20.

A LADY'S BEE-KEEPING.

[4362.] I wish to express to you the great pleasure I have in reading your B.B.J. every week, and the immense help it is to me. I have kept bees for five years now, and they are a source of both pleasure and profit. I have had as many as eight colonies at one time, but am now reduced to half that number, having disposed of two stocks, joined two which were weak in numbers last autumn, and lost one during the winter.

It is of this last I wish to write. The queen of the colony, I discovered last summer, was a drone-breeder, but owing to illness in our family I was unable to attend to my hives as usual; it was therefore left to take its chance. There were only a handful of dead bees when I overhauled this hive two months ago, and not being able to clean the hive at the time I closed the entrance after throwing away the dead bees and some comb.

Now comes the curious part of my story. When I *did* turn that particular hive out for a thorough "spring cleaning" I found a charming little home inside, in the shape of a wasp's nest about as big as a small apple, the cells full of eggs, while a second nest was begun on the adjacent frame! It really was so pretty I was quite sorry to take it away; but it rejoiced the heart of our schoolmaster, who has given it an honourable place in his museum. How the queen-wasp got in is a mystery to us all. The hive is closely stopped now against all intruders.

Why does one side of a "Wells" hive invariably do better than the other? I see many of your readers echo that question. Mine is stocked with Carniolans, and the swarm put in last year is far and away ahead of the other. To be sure, it is the warmest side of the hive. [We cannot say.—EDS.]

This is a very fair district for honey, I should think. First of all comes the gorse, and I really do not think any other county has such gorse as we can boast of—acres and acres near the moors, and such perfume! Heather, a few miles away, in abundance, and clover blooms with us about mid-June. Of course, there are spring flowers all around, and a few limes later on in the year.

I shall never forget my first experience in driving bees. I had never seen such a thing done before, but had diligently read up the subject until I thought myself letter-perfect. One day, when hunting for harvest decorations for our church, a farmer whom I met told me of some hives he was going to sulphur to get rid of; but at my earnest entreaty he consented to let me try my "'prentice hand" on "driving" instead. I shall never forget my terror lest something should go wrong. I knew so little about the subject, and the farmer still less. However, the weather was accommodating, the bees more so, and everything went off in first-rate style. In fact, the owner told me I must have "charmed" the bees, and in spite of my earnest denial, people around here say it still.

I turned the bees into their future home early the following morning, having left them under an umbrella in the garden in case it rained. Next year they rewarded me with several sections, and so huge a swarm that one skep would barely contain them. Since then I have helped many other people, on one occasion getting the bees out of an old potato-box, where they had been undisturbed for two years. I remember we took over 1 cwt. of wax and honey.

I use a home-made solar wax extractor, and would not be without it on any consideration.

We have had a few bee-demonstrations since I first began my hives, but I consider I owe all I know to your B.B.J. and the "Guide Book." I have lent them to several people.

Please excuse this long letter. My pen runs away with me when I get on the subject of "bees."—(Miss) M. L. KING, *The Vicarage, South Molton, North Devon, May* 21.

WATER-TROUGHS FOR BEES.

[4363.] Possibly the following way of providing water for the bees may be of use to some of the readers of the B.B.J.

Underneath a stand-pipe, and distance about 50 yards from my bees, I have placed an old washing copper filled with water and loosely covered with a piece of sacking material.

At the time of writing the bees have almost covered an area of about 7 square feet, busy taking the water. I suppose the sacking acts as a sort of syphon, for almost half the contents of the copper are available for the bees before the vessel requires refilling. So far as I know I have never seen a bee drown.—BRACKLEY, *May* 20.

OVER-DOSING WITH PREVENTIVES.

[4364.] Reverting to your reply to my query on imperfectly capped combs (2046, page 198), I now add a line to explain that a very large quantity of naphthaline was used about ten days before the sample of comb was taken from the hive. In another case also it is possible that the amount of naphthaline used was rather liberal, arising from the naphthaline not having been purchased in the usual form.—WEYSIDE, *Woking, May* 18.

[The explanation is much as we expected it

would be. We have each season for some years past had evidence of the same trouble occurring to readers, either through over-dosing with the proper remedy, or using naphthaline in some crude form or other. If the printed directions are adhered to in using naphthaline in balls sent out from this office, no death of brood from over-dosing will occur. —EDS.]

TWIN BEES.

[4365.] While doing expert work in this part of Sussex (Horsham and Slinfold district), I came across, what to me was a curiosity, viz., two larvæ in one cell. I have often seen two and more eggs in one cell, but have never before known the bees allow them to hatch. These had been hatched I should say three or four days and were both to all appearances normal, one being curled up at bottom of cell as usual, and the other curled back upwards, fitting on the other something like the tail of a capital Q. I thought this might possess interest for your readers.—J. HERROD, *Expert, Kent and Sussex B.K.A., Horsham.*

[Though rarely hatching out in "normal" condition, it is, we think, certain that the twin larvæ never reach the imago stage.—EDS.]

RAISING DRONES.

[4366.] Will Mr. Woodley or Mr. Loveday kindly explain the following:—When adding new frames I always give full sheets of worker foundation. Yet on looking through a very strong hive on May 16 I found one frame near centre about covered with drones and full of sealed drone-cells. I also find in the combs of all my hives quite large patches of drone-cells, and although I make no special allowance for drones, they are as large and vigorous as any one can desire? My plan is to put these frames at the outside of hive and later on extract them, then cut them down for shallow-frames. Some treated thus have been in use several seasons, and will no doubt be used again this year. I saw drones on the wing on the 12th inst. for the first time this season. With regard to bees turning vicious, my experience is that it very much depends on the weather—and the manipulator. If the weather be at all dull and chilly one must "go slow," for many of the old bees are at home then, and it is they who resent their home being disturbed. But, as you have said, Mr. Editor, it is foolhardy to manipulate without a veil.—A. HARRIS, *Wavendon, Bucks, May* 20, 1901.

HOME-MADE BEE ESCAPES.

[4367.] In the B.B.J. of May 2 (4342, page 173) your correspondent, Mr. J. Rymer, referring to his bee escapes, says:—"My 'escapes' are home-made, and admit the passage of drones as well as workers, so you will therefore see that mine are not what you would call the ordinary super-clearer." If J. R. will kindly tell me (through the B.B.J.) how to make them (his bee escapes) he will thereby add to my pleasures among the bees? I may say my hives are all home-made.—W. C. H., *South Devon.*

(*Correspondence continued on page* 206.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Mr. Allen, whose photo on next page forms our bee-garden picture this week, has already had some sort of introduction to readers in the description of his capital honey-comb design in our issue of May 9. We therefore need not add to the useful account he has written of himself and his bee-keeping in response to our request as follows:—

"The apiary shown in photo belongs to my employer — a nobleman in the county of Oxfordshire — whose hives had been very badly managed before my time. As a result, the bees were so savage that no one could go near them. On it becoming known that I kept a few hives and took great interest in my own bees, I was asked to take charge of my employer's apiary. My previous experience of bee-keeping extended over about two years, during which time I had some rather severe lessons from the bees in the shape of stings, of which during my first season I received enough to dishearten most beginners. I resolved, however, not to be beaten, and although far from an expert, I took charge of this apiary about Christmas, 1890. There were then eighteen stocks, two in small bar-frame hives, the others in skeps and boxes. I then began taking your weekly and monthly journals, where I saw advertised the 'B.B.K. Guide Book,' which I at once procured. I also became a member of the Oxfordshire B.K.A. I next sent for four new frame-hives from a well-known advertiser, and painted them ready for spring. On making my first overhaul of the hives in February, 1900, I found five of the eighteen colonies dead—a result which I believe was caused by mice and wax-moth; at least, I could find no trace of disease in any of them. I ought to say, however, that I have never yet seen a case of foul brood. After disposing of four of my skeps to a friend from my own stocks, I united two of them which were very weak by placing one above the other. The bees fought a little at first, but soon settled down. Later on I put a 7-lb. super on the top of the two skeps, and at the end of the season removed the top skep and super both full of honey. The bottom skep, however, was found to be honeyless, so I had to feed the bees all the winter.

"Not being desirous of adding to the number of stocks in my charge, I was at a loss how to prevent increase, so I studied the 'Guide Book,' and at the beginning of May placed two stocks in skeps over the frames of two of the new hives. I did not like to transfer more than two stocks in this way, fearing that the skeps might contain old queens and become queenless and worthless in consequence, as one of my own lots did the winter before. I therefore resolved to try an experiment of my own in the other two hives. I had them fitted with full sheets of foundation ready for the bees. I watched for the first swarm, which issued on May 21. After having the swarm in a skep till the evening, I proceeded exactly as directed in the 'Guide Book' in the chapter on hiving bees (page 20), and when I saw the bees marching into their new home, as shown in the book, it was a sight I had never seen before. I then moved the parent skep a little to one side, and set the frame-hive in its place. Next afternoon I gave the bees of swarm and also of the parent skep a few puffs of smoke, and began to hunt for the old queen in the new hive. I soon found and destroyed her. I was sorry to do this, but I had a young queen to take her place at the head of the swarm. I then poured a teacupful of scented syrup into each hive, the swarm and stock, and left them about an hour. On my return I quietly lifted the skep, and placed it on the top bars of the frame-hive above a quilt in which I had previously cut a hole about 5 in. square.

"I treated the next swarm in the same way, and there was very little fighting. So far as I could judge, the latter plan answered best, as one of the stocks placed over the frames and allowed to transfer themselves died in the winter, but the other two are now the strongest stocks in the apiary. In this way, then, I had my four new hives tenanted. I got three swarms from the remaining three stocks. Two of the latter I joined together in an old frame-hive; but although both swarms came off at the same time—and actually clustered in the same tree—the bees fought a good deal before settling down, as they eventually did. Two of my stocks died in the winter, one in a skep and the other in the frame-hive. I think both were queenless, as there was not a pint of bees left in either. Anyway, I got 25 lb. of honey from the two hives after the bees died, so it was not starvation.

MR. R. ALLEN'S APIARY, TUSMERE, BICESTER, OXON.

"An unfortunate occurrence took place in January last. The tree beneath which I was sitting when photo was taken, shown as being covered with ivy, was blown down in a storm and overturned the three hives seen in the picture. They remained exposed to the cold for twenty-four hours, causing a lot of bees to perish. I am, however, pleased to say they were put right again and are doing well now, apparently none the worse for the mishap.

"I have not had much experience in marketing honey; what I sold last season averaged 6d. per lb. for extracted and 8d. each for sections. I did not have a big harvest

last season, but am looking forward for a better one this year. As regards sending honey safely, I despatched some sections by parcels post packed in a strong wooden box; they arrived all smashed; so I packed six more in a biscuit-tin and sent them by train, and they arrived all right. I sold all my honey except the above locally.

"I am starting the season of 1901 with seven stocks in the apiary seen and seven in my own."

CORRESPONDENCE.

(*Continued from page* 204.)

BEES AND SPARROWS.

[4368.] Some few days ago, while visiting the apiary of a neighbour, we were standing at his gate, when he called my attention to a number of sparrows on the spouts and chimneys of some houses opposite. Every minute or two one or other of the birds made a sudden dart, and was generally successful in catching a bee making its way home over these houses; the sparrow then flew back, pulled the bee to pieces, and wiped the sting from its beak on to the spout or chimney where it was settled, and was ready again for the next victim. As the bees were, most of them, returning home laden with pollen or honey, and tired, they became an easy prey to their enemies. I have not noticed anything of the kind near my small apiary, but doubtless some of your readers have. I was not aware that sparrows were guilty of this, although I have seen it reported in the B.B.J. that tomtits are.—EBOR, *Altrincham, Cheshire.*

DEATH OF THE REV. D. W. PENNELL.

[4369.] It is with great regret I write to inform you of the death of the Rev. D. W. Pennell, who died on May 4, at 7, St. George's-terrace, Cheltenham, aged seventy-eight. Mr. Pennell started bee-keeping at Winchester; I think he told me it was in the seventies. Since then he has kept bees in various towns in the country, and was ever ready to help a young beginner in the craft. Many, I am sure—myself among the number—have much to thank him for; no trouble was too great if thereby he could help with his advice. I believe he acted as judge at one of the first honey shows—that held at the Crystal Palace in 1874—and also at several local flower shows he judged the honey. A regular subscriber to your journals, it was quite a treat to have a chat with him over the different articles, &c. He often talked of sending you a photo of his apiary for inclusion in the "Homes of the Honey Bee," but increase of years and feebleness prevented him making arrangements to have it done. A keen lover of nature, he was never better pleased than when he could be in the apiary watching his little friends. Speaking of him as a man, I can only say, Would we had more like him!—G. BALLINGER, *Cheltenham.*

EARLY SWARMS.

In spite of the backward season, a swarm came off from a frame hive belonging to Mr. W. King, Wickham Bishops, yesterday, May 14, and very obligingly hived themselves in another hive which had been prepared for them. On examining them to-day, I found both stock and swarm in good condition.—W. A WITHYCOMBE, Expert, *Essex B.K.A., Maldon, May* 15.

George W. Kirby, expert of the Bristol, Som. and S.G.B.K.A., secured two swarms of bees on Sunday, May 12, 1901. *Longwell Green, Nr. Bristol, May* 14.

A line to let you know that "swarming" is coming on in swing at this end of the world. My first "new century swarm" came off on the 18th inst., and I shall not have to wait many days for more swarms.—JOHN ROWLANDS, *Pwllheli, N.W., May* 20.

Perhaps it will be interesting to readers of the B.B.J. to have a proof of the lateness of the swarming season. As a rule, I get my first swarms the last week in April, this year May 15 was the date, and now there is every appearance of a great rush.—J. J. ALSFORD, *Blandford, May* 20.

Not having yet seen any account of early swarms in B.B.J., I beg to state I had a very nice swarm on Friday last, May 17, and another on Sunday, May 19. I also supered two stocks nine days ago; the bees are working in them well.—C. HOPKINS, *Hampton Levett, Droitwich, May* 20.

LONG-TONGUED BEES.

FAD OR FALLACY—WHICH?

Of late years some of our bee-papers start off with some new idea, or some old one revived, and in a little while the heads of all beedom seem to get twisted out of the "straight and narrow path," and run off after an "apparent something," which, a few years later, is dropped as if it never had an existence, with hundreds and thousands of hard-earned dollars wasted over the hobby or fad.

The fad now "on" seems to be "long-tongued bees," the fad having run long enough and the excitement become great enough to warrant asking 10, 15, and 25 dols. for queens, giving bees having a certain length of tongue-reach. And our good Editor York is compelled to fall into line with the announcement at the head of his advertisement, "Long-tongued bees are demanded

now." Of course, the "fad" has caused the demand, and no one blames the editor for heading his advertisement in accord with that truth. But is the fad founded on truth, or on a fallacy? That is the question that should be asked in all seriousness before more money is wasted on the fad.

Long-tongued bees are either better workers, or they are not better. Then, they may work on red clover where that abounds, and be a great advantage there without being any more industrious at gathering honey from apple-bloom, basswood, or buckwheat, the nectar from which any bee could reach having a tongue not more than half as long as the shortest tongues measured. That being the case, long-tongued bees would be an advantage only to those residing where red clover and other long-tubed flowers abound. This brings me to look into this part of the matter, for red clover has not blossomed to any extent in this locality for the past fifteen years, owing to a "midge" or very small larva which works in the head just before it would blossom, thus reducing what used to be fields "red with clover blossoms" to fields having a dull brown colour, which is assumed at blossoming time from the workings of this pest in central New York. So, if these long-tongued bees are not better otherwise, their working on red clover is of no advantage to me. So I turn to the testimony:—

On page 220 of *Gleanings* for March 15 I find these words:—"The movement for longer tongues is simply to get the red clover crop of the North, which now is practically all wasted. The bees NO ONE CLAIMS *would be any better except on that account.*"

The italics are mine in the above quotation, and were put there to draw attention to the words, as they point to a fallacy somewhere. If the above is correct, then these long-tongued bees are of no special advantage to me, nor to two-thirds of the acreage of North America. And yet I find parties in the extreme Southern States of Florida and Texas heading their advertisements in that very same number of *Gleanings* with "Long-tongued queens," just as though such long tongues were the great desideratum for that Southern country, when according to the reading columns of the same paper no one should claim they were any better. But such claims are being, and have been, made. Let me quote a few of these claims:—

"Heretofore I could only assert that the bees were superior, that they would store more honey, but I could give no reason why, except that this trait had been developed by years of selection and careful breeding; but now I can say why, or at least give a reasonable reason why."

And what is that reason? "They have very long tongues" (*Gleanings*, January 1, page 32). If there was any thought about red clover in the author's mind, no hint is given to that effect.

"The fact begins to dawn that bees, in order to make a better showing in their hive than the bees of another, must have long tongues" (*Gleanings* for 1900, page 882). These words are given in connection with bees living in the State of New Mexico, where no red clover grows, if I am correct. "It is the old, old story. In every case where we have long-tongued bees we have good honey-gatherers" (page 881, *Gleanings*). Not the least hint at red clover here, either. "We have now learned the secret of their great honey-gathering qualities. It exists, as I supposed, in the great length of their tongues" (*Gleanings*, 1900, page 813). "Another record-breaking queen whose bees have long tongues" (*Gleanings*, 1900, page 844). "Long tongues and good working qualities go together." "The evidence is still piling up, to the effect that long-tongued bees are the ones that get the honey."

And so I might go on giving quotation after quotation of statements made along this line, without any special qualification, or, if any qualifications have been made they have been so hidden under a lot of rubbish, or so twisted that the reader is led to believe that long-tongued bees are just the thing he should have if he would succeed, no matter about red clover, or in what portion of the country he resides.

Now, as I hinted in the start, long-tongued bees do have an advantage outside of the red clover districts, or they do not, and to give misleading statements, or those actually false, is something that our bee-papers of the present day should not stoop to doing, not even when the motive of gain prompts its advertisers. I am satisfied that long tongues are only of advantage to those in red clover districts, if they are of any special advantage anywhere, for the reason that I have repeatedly had colonies that I considered hardly up to the average during certain seasons (and would so mark the hive, preparing to supersede their queens in the future) that the very next season would go ahead of many others which I had marked as the best I had in the yard. And such reports have come to me from many bee-keepers in other localities.

Then there is another thing which casts a shadow of doubt on this whole measuring matter, and that is that many admit that there is nothing of minute exactness about it. Undoubtedly, a bee with a tongue only 15-100 of an inch long can be told from one having a tongue reach of 20 100; but with the most exactness, and the nicety of the instruments used at the Medina establishment, we have this strange admission by E. R. Root, found on page 579 of *Gleanings* for 1900:—

"All the tongues I measured would reach easily 15-100 inch. By exerting a little pressure on the head of a decapitated bee just chloroformed I could get most of the tongues to stretch to 18-100."

With such an admission as this from one

who has all the paraphernalia in his establishment for nicety of work, what can be expected from the thousands of bee-keepers that Dr. Miller would have set at this work? And so one of my correspondents can be excused for asking me the question, "Do you not think that one of those queens advertised on page 240 of the *American Bee Journal* at 10 dols. could, 'by exerting a little pressure,' have its tongue stretched so as to make a 25-dol. queen of it?"

There are times when it is necessary that a "halt should be called" by some one, and as no one has seen fit to do this, I have felt it my duty to do so, that too much money need not be sunk on this latest fad, even if we do not call it a fallacy. — G. M. DOOLITTLE, in *American Bee Journal*.

Queries and Replies.

[2650] *Dead Bees and Foul Brood.*—In your reply to me last week (page 200), you say, "We cannot possibly form any opinion as to disease or with regard to foul brood from having half-a-dozen dead bees sent." Frank Cheshire, in vol. II. of his book on bee-keeping, asserts on page 546 that foul brood attacks adult bees, and adds (on page 547) "Snipping of the end of the tongues of bees from diseased stocks, and then squeezing them so as to express blood, gave material which was found laden with bacilli in most cases." On page 568 of the same book Mr. Cheshire says:—"A considerable number of instances occur in which numerous undersized, hairless, and greasy-looking bees are found perambulating the combs, or are dragged *nolens volens* to the hive door and then and there evicted. In other cases crowds of these abnormal bees die immediately in front of their homes, while many are usually to be found running about on the ground, constantly stopping to rub their legs, antennæ, and bodies, with a nervous uneasy movement, and then, collecting into little knots, continue these convulsive twitchings until they die." It was by noticing the bees running about on the ground in the manner above described that I suspected something was wrong; I am convinced, however, that it is not foul brood, as it has now almost stopped. Perhaps you can give me a reason why? Hoping that I am not troubling you too much.—JAMES HAMILTON, *Arran, N.B.*

REPLY.—In referring to what Mr. Cheshire "asserts," our correspondent surely forgets that blood cannot possibly be "expressed" from the tongue of a bee that has been dead some time, so that even from the standpoint of the author he quotes our reply on page 200 is perfectly correct. Besides, Mr. Cheshire's work was written more than fifteen years ago, and scientific research in the region of germ diseases has made enormous progress since then. In a word, we ask, does any sane practical bee-keeper believe to-day in Mr. Cheshire's "assertion" that stocks of bees weak, queenless, and on combs almost rotten with foul brood can be restored to perfect health without removal of the diseased combs from the hive? And this, too, by the phenol treatment now discarded by all up-to-date bee-keepers? We also trust it will not be considered unreasonable to expect that readers, in asking our opinion with regard to foul brood, will send, not dead bees, but small pieces of comb just as taken from the hive, in order to avoid troublesome microscopic work.

[2651.] *Early Supering.*—Would you kindly give me your opinion and advice on the following:—1. Our bees are very busy just now on the sycamore and the fruit trees in the neighbourhood; would it be of any use to give a rack of sections to a strong colony? Our honey-flow is, practically speaking, from the heather. 2. A colony belonging to a neighbouring bee-keeper being suspected of queenlessness (as no pollen was being carried in) a friend and I last week examined it. We looked carefully over the two frames which held all the bees, and saw neither queen nor brood of any description. We found, however, two queen-cells, one of which contained a larva and the other a live drone at the point of emerging. Now where did the egg that produced the drone come from?—J. A., *Perthshire.*

REPLY.—1. By all means give surplus-room if honey is coming in well. If only partly-filled sections were secured now, they would be most helpful at the heather later on. 2. May be from a fertile worker. Are you sure the bee "on the point of emerging" was a drone?

Bee Shows to Come.

June 12 and 13 at Colchester.—Honey Show in connection with the annual Show of the Essex Agricultural Society. Liberal prizes for Honey, Beeswax, and Appliances, mostly open to the United Kingdom. Schedules from Mr. W. J. Sheppard, Hon. Sec. Essex B.K.A., Chingford, Essex.

June 28 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 8 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

July 24, at Broughton, Hants.—Broughton flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal

Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries close July 1i.**

August 8, at Kingsthorpe Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1 lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, alse classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford R.S.O., Carmarthen.

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**,

September 7 to 14, at the Agricultural Hal, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. Open to all British Bee-keepers.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Four prizes for Honey-Trophy, medals, and diplomas.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** Referring to Cyprian queens direct from Cyprus, Mr. F. Sladen, of Dover writes:—"I have just heard that owing to the outbreak of plague at Constantinople, and consequent mail-bag disinfection, it is at present impossible to send queens alive through the mails."

G. Griffiths (Carnarvon).—*Repairing Extractors.*—You had better write Mr. W. P. Meadows, Syston, Leicester, about the broken "cog-wheel and bearings." There is no extractor for which Mr. Cowan "holds a patent," and never will be. Anything to which our senior Editor's name is attached is free to any one to make or sell at will.

H. H. W. (Newton Abbot).—*Mead.*—Your sample of mead is excellent in colour and aroma, but it lacks "body" and is not more than "fair" in flavour. Probably it would improve with age. We should like to know what recipe it is made from?

M. Ward (Leeds).—*Feeding Bees Outside.*—On no account do we advise your hanging combs of honey outside at this season for bees to feed from. It will not only encourage your own stocks to start robbing, but bring your neighbours' bees to share the spoils and start further depredations.

W. V. Rowe (Borne, Devon).—*Foul Brood Preventives.*—The author of the "Guide Book," in advising the use of soluble phenyle, gave his personal experience of the remedy in dealing with foul brood, and notwithstanding you name the many and much more largely advertised remedies of later days, he adheres to his preference for the one named in dealing with bees. It can be had from Messrs. Morris, Little, & Co., Doncaster. We will draw the attention of Mr. Cowan to your request for his views, but as he is abroad it will be some time before a reply is received.

M. N. (Colchester).—*Dealing with Wax-Moth.*—The point is to know if the moth you are troubled with is the large and destructive wax-moth *Galleria cereana*, or the smaller moth, the larva of which does not exceed $\frac{1}{2}$-in. in length when full grown. The latter need not be feared, though it is somewhat of a nuisance; but by keeping colonies strong it never makes headway in a hive. The large moth, if allowed to work its will with a weak stock, will destroy the combs and cause death of the bees. If a small piece of the infested comb is sent we will know how to advise you.

H. J. Wisbey (Cambs.).—*Exporting Honey to Holland.*—You could ascertain whether any duty is payable by applying to the Dutch Consul at nearest port of shipment. In any case, however, we should think the buyer would pay duty if levied on the goods, not the seller.

Jas. Blair (Co. Tyrone).—*Temperature for Opening Hives.*—You will make no mistake by discarding the use of a thermometer in deciding when to open hives. Let the bees be your guide, and when they are flying freely and going off foraging to the fields, you may make any necessary examination without risk. What are known as "untimely manipulations," means opening hives in cold weather and reducing the warmth of brood-nests by needlessly exposing the combs in the early breeding season. Just when brood-rearing is making headway in spring the bees resent this intrusion, and "balled" queens is the result.

R. J. Hinton (Croydon).—*Queen Maimed and Cast Out.*—The queen (a fine Italian) has been badly ruptured by some mishap, probably in lifting the frame on which she was. Her ovaries are so injured as to destroy her egg-laying powers entirely, and it could only

have been a case of a few hours before death must have followed.

C. HEAPS (Lancaster).—*Honey and Wax Samples.*—We have made inquiry, and find no trace of samples or letter; it must, therefore, have miscarried.

G. LAMONT (Ardlamont).—*Moving Bees.*—1. If carefully carried out, the instructions in "Guide Book" will suffice to safeguard the bees as much as possible, but there must be some risk if the hives are entrusted entirely to railway porters. If under personal charge all will go on well. 2. The bees alone, if driven from the skeps and securely packed in empty hives as proposed, would travel as safely as swarms. 3. Do not feed the bees heavily before packing for transit.

Suspected Combs.

"WOLSEY" (Leicester).—There is a slight trace of foul brood in comb sent. The precautions proposed to be taken are, therefore, wise and judicious, but need hardly be so drastic as proposed, seeing that the disease is only in the incipient stage.

J. B. H. (Worcester).—Comb only shows slight signs of disease; but from your description we should suppose other combs will show more decided symptoms of foul brood. In any case the stock is worthless.

T. C. H. (Brosley, Salop) —There is no trace of any brood in comb sent. The cells contain nothing worse than mildewed pollen.

J. BOYES (Cardiff) and J. ADAMS (Strabane).—We find no disease in combs sent.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

£5 KODAK for 25s. (bargain), or Exchange Bees. WILLIAMS, 13, Churchill, Walthamstow. F 79

PRIME QUEENS, 5s. each. FRANK REED, Portslade, Sussex. F 90

PRIME healthy June SWARMS, from 4 to 7 lb., 12s. 6d., 15s. 6d., 18s. 6d., and 21s. Packed free. S. BAILEY, Itchingfield, near Horsham. F 80

PRIME SWARMS of superior BEES, 15s., 12s. 6d., 10s. 6d. Packed free. WALTON, Honey Cott, Weston, Leamington. F 81

FINE CLOVER HONEY FOR SALE. One cwt. in 7-lb. tins, 6d. per lb. SMITH, Llanellen Court, Abergavenny. F 75

WANTED, healthy SWARM of good strain of BEES, and cheap, good Bar-frame Hive. HOLMAN, 2, Exning-villas, Church Hill, Loughton, Essex. F 77

GOOD natural SWARMS FOR SALE, 10s. each. H. HOLLEWORTH, Manor Farm, Wysale, Notts. F 78

FOR SALE, three strong STOCKS, 10 frames, 25s. each. Miss KING, Vicarage, South Molton, Devon. F 86

FOR SALE, healthy SWARMS, 8s. each, or 2s. 3d per lb. Cash with order. WHITTING, Manea, Cambs. F 87

FOUR CWT. EXTRACTED HONEY in 28 lb. tins, 52s. 6d., or lot at 50s. cwt. "EXTRACTOR," *Bee Journal* Office. F 85

EARLY natural SWARMS, 15s. each. Also "Touchwood," for use in smokers, 2-lb. parcels, 8d., post free. W. SOLE, Expert, 105, Graham-road, Wimbledon. F 89

Prepaid Advertisements (*Continued*).

FOR SALE, twelve STOCKS of healthy BEES in fine condition, with supers on. All in "W.B.C." hives. Mrs. ASHBY, 110, Liverpool-road, Birkdale, Southport. F 76

NEW TALL 1-lb. SECTIONS, 100, 3s. 9d; post free. All sizes of sections and separators supplied promptly. F. SLADEN, Ripple Court Apiary, near Dover. F 83

25TH YEAR.—STOCKS, six wired frames, 16s.; eight, 18s. Swarms, 10s. 6d., 12s. 6d., 15s. Reliable Queens, 5s. Packages free. ALSFORD, Expert, Blandford. F 88

READY FOR SWARMS.—A few Lee's "Holborn" Hives, with zinc roofs in excellent condition, with excluders, and 10 frames, mixed drawn-out combs, and foundation full sheets, 10s. each. Single hive sent free to rail. All guaranteed healthy. Overstocked in poor district. CADNESS, Ilford. F 82

FOR SALE.—Five STOCKS; six "W.B.C." interchangeable HIVES; Supers and Section Crates, with comb or foundation; Extractor, Ripener, &c.; three frame mahogany Observatory Hive; four extra Hives. HUTTON, Bardon Lodge, Heswall, Cheshire. F 84

FOR SALE, nicely-made ELM BOX, containing two trays, each holding 52 sections, with space under for honey-bottles; perfect for travelling; trays can be used on large hive as supers. Also large Honey Extractor, Wax Extractor, and Syrup Maker, all in one, the invention of vendor; right to make it to be sold cheap. Address, "X. Y. Z." *Bee Journal* Office.

SWARMS, 10s. 6d. Order now. J. J. W. ROGERS, Heath Apiary, St. Albans, Herts. F 62

QUEENS.—1901 fertile and tested Queens, 5s. each. Virgin Queens, 2s. 6d. each. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

FIVE-FRAME CARNIOLAN HYBRID STOCKS, 20s.; 3-frame, 15s. F. REED, Bee Farms, Portslade, Sussex.

SECTIONS, GRANULATED, three and four shillings a dozen. LING, Shady Camps, Linton, Cambs. F 70

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Rev. C. BERRETON, Pulborough, Sussex.

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

FOR SALE, CHEAP, land being wanted, 30 STOCKS BEES, many near swarming; will divide; also strong natural swarms. LINSTEAD, Garboldisham, Thetford. F 72

PRIME June SWARMS of healthy ENGLISH BEES, 10s. 6d., 12s. 6d., and 15s. each, headed with last year's queens. Packing and box free. W. WOODLEY, Beedon, Newbury.

SIX STOCKS BEES FOR SALE; strong, and well-wintered, in good standard-frame hives; all with Supers, &c., complete. LAIRD, Kirby Muxloe, near Leicester. F 57

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

GOOD light coloured HONEY, 1 cwt. at 5½d. per lb.; 1 cwt. 2nd grade, 4½d.; 2 cwt. of dark, 3d. per lb. all in 32-lb tins. Samples 2d.; tins free. W. HAWKES, Barley, near Royston, Herts. F 51

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

Editorial, Notices, &c.

IRISH BEE-KEEPERS' ASSOCIATION.

A meeting of the committee of the Irish Bee-keepers' Association was held on the 15th inst. at Dr. Traill's rooms, Trinity College, J. M. Gillies, Esq., in the chair. Also present Rev. J. G. Digges, Messrs. Abbott, O'Bryen, Watson, and M. H. Read, hon. sec. The minutes of previous meetings having been read, and some accounts passed, it was settled that future committee meetings should be held every fourth Thursday, beginning with June 6. The sub-committee appointed to publish an Irish journal to represent the industry presented their report, and were able to say that the first issue, that for May, had met with a very encouraging reception. It was resolved that the journal sub-committee be continued in office. A vote of thanks was unanimously accorded to the Congested Districts Board for their generous grant in aid of the journal. A communication from the Department of Agricultural and Technical Instruction, inviting the committee to draw up a detailed scheme, to employing £150 in pioneer teaching of bee-keeping, and destroying foul brood, was considered, and the unanimous opinion of the meeting was that the proposed sum was quite inadequate for the work. The hon. secretary reported the formation and affiliation of two more local associations, Fanavolty and Milford, since the last committee meeting, and that he has had correspondence about the formation of several others, which he hoped soon to be able to report.

HANTS AND ISLE OF WIGHT B.K.A.

ANNUAL MEETING.

The annual meeting of the Hants and Isle of Wight Bee-keepers' Association was held on the 7th inst. at the Y.M.C.A. Rooms, Ogle-street, Southampton.

Mr. E. H. Bellairs, the Hon. Secretary, sketched the programme of the society's work for the coming summer. The balance in bank for 1901 is £44 11s. 5d., showing a slight falling off from last year. A discussion on the question of the advisability of the society's being represented at the Weymouth show resulted in the decision to exhibit if the grant is increased to £20 from £15, as previously the case. It was also decided that the Hon. Secretary should endeavour to procure the services of a paid expert to visit and advise bee-keepers who should apply for his services. Altogether the outlook is encouraging, and with an increase of subscribers and personal activity on the part of members, 1901 should be a very successful year for this admirable Association.—(*Communicated.*)

THIRSK AND DISTRICT B.K.A.

A meeting of members of the Thirsk and District Bee-keepers' Association was held on Friday, May 17, when a paper on "The Production of Comb-Honey" was given by the secretary, Mr. R. T. Tennant. Mr. J. W. Hall presided, and after some introductory remarks called upon Mr. Tennant to read his paper, which was listened to with great interest. A lengthy discussion followed, in which the following took part:—Miss Gill, Mrs. Hildyard Topcliffe; Messrs. H. F. Garnett, W. Scurrah, A. Meynell, H. A. Shaw, H. Beckett, C. Moore, R. Garnett, R. Walton, and the chairman.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office,* 17, *King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4370.] The season for building up stocks ready for the clover honey-flow is fast fleeting, and the weather in this district for a fortnight past has not been at all good for the bees. Cold north-east winds, with nearly three weeks drought, has checked growth in the fields and adverse atmospheric conditions having prevented the secretion of nectar except a short time in the middle of each day. Trefoil (or hop clover) is now in bloom but not a bee to be seen in the field at 3 p.m. The flowers of the plant are also stunted in growth owing to the frosty nights. On the whole, sainfoin promises to be our best crop.

I am glad our editors have given us Mr. Doolittle's article from *American Bee Journal* on the "long-tongued bees." Let us on this side of the Atlantic weigh the matter closely, and "go slow" in adopting this "fad."

"*Looking Backwards.*"—Or, as one might say, "putting the clock back." I am surprised to see by Mr. Young's letter on the "Dairy Show Prize Fund" (page 302) that the British Bee-keepers' Association Show Committee has decided to offer prizes for 2-lb. sections. This is, in my opinion, a retrograde movement. The schedule will read as did the schedules of twenty years ago. The class for 2-lb. sections has been discarded for many years,

owing to the unsaleableness of 2-lbs. of comb-honey in one lump. Older members of the craft will bear me out in this matter. This experimenting again with 2-lb. sections will, to the older hands, be simply a resurrecting of an obsolete style of sections tried and found wanting as a marketable quantity for price. Regarding the class for sections other than 4¼ in. by 4¼ in. (which we may call the "Lamb" or "Sladen" section class), that is something new so far as dimensions, though the weight of honey (approximately 1 lb.) remains the same as the ordinary 4¼ in. by 4¼ in. section. In this matter I also counsel bee-keepers to "go slowly." Give them a fair trial alongside the ordinary section, and unless the new size proves to be really better and more quickly filled, why should we bee-keepers spend our surplus cash on new appliances and relegate to the lumber-room our hundreds—nay, thousands—of slotted-metal dividers? We know that the condition of the market is continually changing, and that we must move with the times if we wish to be in the front of the craft.

Raising Drones.—Referring to the letter of Mr. Harris (4366, page 204), I should expect that Mr. H.'s foundation sags or stretches; this would account for large patches of drone-brood. If full sheets of correct worker-size foundation are given to the bees they will naturally build worker-size cells only. In "sagged" foundation—with out of shaped cells—or in old combs in which pollen has dried up and the bees have had to remove large patches, I grant the bees will occupy the patches with drone-size cells or brood. The reason why I advised a half or two-third sheet of foundation was to give the bees space to build drone-cells of natural size, instead of compelling them to rear drone bees in elongated worker-cells, thus circumscribing the growth of the young drones and probably spoiling the brood-combs for worker-brood afterwards. If my surmise is correct, Mr. Harris has no doubt ample drones, both in size and numbers.

Establishing New Swarms and Stocks.—No report of swarms in our local paper yet, and I have heard of one only from a straw skep in a sheltered position in a valley of our district. The season of swarms and establishing new stocks, however, is with us. In using "thin to medium" stock-foundation care should be taken when "wiring" to put the wires horizontal and not vertical. The heat of the colony makes the wax liable to "stretching," and it is easily possible for it to slip down, but if the wire is horizontal it supports the new combs very much better.

Bee Smokers.—The "smoker" is apt to become choked with refuse from the fuel. When this occurs, bee-keepers will find an old worn bass-broom an excellent thing on which to dump the nozzle part of the smoker, for by it the holes are cleared instantly. The time to super your hives is when the bees are beginning to seal the rows of cells along the tops of the brood combs. Strong stocks are very likely to make preparations for swarming, and where swarms are not wanted, and the stock is headed with a last year's queen, the queen-cells should be cut out and a sheet of foundation given in the centre of brood-nest before the super it put on. This giving of extra room in both brood-nest and the super will tend to prevent swarming.—W. Woodley, *Beedon, Newbury.*

PRIZES AT THE DAIRY SHOW.

CLASSES FOR 2-LB. SECTIONS.

[4371.] The schedule of prizes for the Dairy Show has now been settled, but it will not be printed or issued for some time. Being desirous of seeing a good exhibition of honey in the two new classes for sections, in addition to the usual 1-lb. 4¼ in. by 4¼ in. sections, and in order that those bee-keepers who usually exhibit may procure sections by the time the clover is in bloom, I would mention that there are prizes for 2-lb. sections and also for 5 in. by 4¼ in. sections. As these sizes have not been in general use, I think it would be well if appliance dealers who have them in stock would advertise them in the Bee Journal.—John M. Hooker, 25, *Tressillian-road, St. John's, S.E., May* 22.

COMMENTS ON CURRENT TOPICS.

[4372.] *May.*—The weather of May has been abnormally fine.

> After April when May follows,
> And the white throat builds and all the swallows,

we are taught by the poets to look for everything donning an ideal garb of loveliness. Their descriptions too often appeal to a fairer and sunnier south than ours; but this year we have a poet's May, a flowery May, a genuine, genial, merry May. Vegetation, long delayed by the tardy coming of spring, has progressed by leaps and bounds until what promised to be a late season is now in every way "up to date." What a wealth of song the woodlands have become, and how lovely is now their sylvan shades with the rich and vivid new-born green! How fair in a dell I know is that carpet of yellow primrose blossoms rising above their crisp and crinkled leaves! And that great stretch of sparkling anemones, how they glad the eye with their wealth of pure white and delicate crimson pink, forming sheets of richest bloom! In the softer ground what mines of gold are displayed in the yellow celandine, the marsh marigold, while its twin sister, the buttercup, adorns the leaf, each flower a golden gem; and the no less bright dandelion shines everywhere amid the verdant grass like myriads of stars in an unclouded sky. These and a host of other more modest flowers are bountifully supplying our bees with their loads of pollen for weeks back, and one begins to wonder if the insects have made

a mistake in carrying in such heaped-up piles from early morn till darkening eve. Let us trust instinct teaches them a knowledge of when to desist. White clover promises to be in flower very early, and the signs foreshadow a rich bloom.

An Interesting Swarm.—The May *Strand Magazine* possesses one, and I trust Mr. Herrod will allow his photo. to appear in the JOURNAL. Bees at times settle in odd places. A good few years ago one partly settled on my hat as I was intently watching the hurly-burly, and it was only when the added weight called my attention to the fact that I became aware I was the centre of attraction for several thousands of stinging insects—or at least insects with stings. At that time my nerves were not strung to the necessary pitch of perfection, so I quickly divested myself of my headgear, when, to my regret, the bees decamped to a neighbouring bush.

A High Ideal.—It is well for us all to aim high. Some one has written—"Shoot your arrow, so to speak, at the clouds. You won't hit them, but you will have aimed higher than if you had hit at a bush." We want to bring our stocks to the "pink of perfection" *at the right time*, and according to our success or want of it, so will be the measure of our ultimate attainment when we garner in our harvest. We too often miss the psychological moment, and manage to come in a week or two before or after the full flow, and so we just succeed in missing the mark. I agree with Mr. Woodley (see page 153) that this is the chief crux of the matter, and I trust he will yet get his discussion on *how* to do it.

Prices Current.—This ever-recurrent topic is never old, for every succeeding season it renews its youth, and continues one of perennial interest. Here are prices from ten different bee-keepers living in ten different English counties, showing an average of rather over 8s. per dozen for sections :—

			per dozen.
1. Twinn	Essex		7s. 6d.
2. Woodley	Berks		8s. to 10s.
3. Wells	Kent		10s.
4. Ling	Cambs		8s.
5. Cock	Bucks		8s.
6. Garnett	Yorks		8s.
7. Pullen	Wilts		8s.
8. Avery	Surrey		8s.
9. Brown	Hants		7s. 6d.
10. Cotton	Hants		8s. 6d.

I think this, or a similar table carefully compiled, might be made the basis of some scheme for getting a more general statement. Scotland stands high, to judge by the few examples culled from your pages. Messrs. Guthrie (Ayr), Muir (Kirkcowan), McNally (Wigton), report an average of 13s. to 15s. per dozen, and in the north we can show fully the same figures. But these are mainly, if not wholly, heather sections. Possibly for clover honey 8d. would be a good average in Scotland, as in England. I cannot but think that here is a theme worth the serious consideration of all bee-men in heather districts. If they can get only 7½d. for clover sections fit to take a prize at a show, while the purchaser offered to take any number of heather ones at 1s. 3d.—as I know was the case last season—it follows that heather men should make it their ideal to work for that which pays. I know a few do. I fear the many do not.—D. M. M., *Banff, N.B.*

BEES ROBBING IN SPRING.

[4373.] I am much obliged to your correspondent "Bridgefield," Carmarthen (4353, page 193), for his explanation of the commotion amongst the bees of the colony, about which I wrote you (on page 182), but the two cases are hardly parallel. The box in question never swarmed last year. It lost its queen in the early summer. I gave it a frame of brood and eggs, and it raised a queen for itself. I wrote to you about it at the time. On the day on which the disturbance occurred I removed the box, which is on a stand, to a short distance from the other colonies, removed the frames, &c., as stated in my letter, and replaced the box on its old stand, facing the same direction and exactly on the same level as before. The operation did not take more than ten or fifteen minutes, so I imagine the riddle still remains unsolved. With many thanks to "Bridgefield."—J. A., *Perthshire.*

EARLY HONEY.

[4374.] On Friday last, May 24, while visiting members of the Essex B.K.A. in this neighbourhood, I found a rack of sections on a hive almost fully completed at Rayleigh. As the centre sections were quite sealed over ready for removal, and the owner was in want of some early honey, I took them and refilled the rack with fresh sections. This is the first honey I have so far heard of in the county of Essex this season.—W. A. WITHYCOMBE, Expert, Essex B.K.A., *Southend, May* 27.

THE SEASON IN DEVON.

EARLY HONEY OF 1901.

[4375.] I had the pleasure of putting on the second rack of sections on a friend's hive this past week, the first one being quite two-thirds full, and some of the sections fully sealed over except a few cells round the edges. I think it is very early for this season's honey, is it not? My friend has only this one hive, and knows scarcely anything about the management of bees.—J. E. SHORT, *Kingsbridge.*

[In view of the generally late season this year we think it very satisfactory to have several reports of finished sections in May. It augurs well for the early shows, and if the present fine weather holds out it will, no doubt, be a very successful show season.—EDS.]

DRONE BRED IN QUEEN CELL.

[4376.] Many thanks for your advice in the B.J. to hand to-day. I enclose the drone bee which we found in queen cell, regarding which I wrote you (2651, page 208). If it was a fertile worker that deposited the egg it is strange that there was no drone-brood in any of the frames, or rather cells, of drone-brood. There were only the two queen cells with brood in them. Trusting it will reach you safely. We are often in a difficulty here, and there is no one within reach with scientific knowledge, and it is a great consolation to think that you are always able and willing to clear off any doubts.—J. A., *Perthshire.*

[There is no mistake about the bee sent; it is a full-sized drone, apparently just ready for hatching out.—EDS.]

MR. RYMER'S BEE ESCAPES.

[4377.] May I through your columns ask Mr. Meadows if he would manufacture bee-escapes that will allow drones to pass through, similar to those mentioned by Mr. Rymer on page 172 of B. J. for May 2. I also notice that Mr. Meadows makes Mr. Rymer's "adapting board." I know of quite a number of bee-keepers who are about giving the method a trial down here in the north, and we are very hopeful of the success of the plan if properly carried out.—J. H. WILLCOX, *Haydon Bridge, Carlisle, May* 20.

ANCIENT BEE-BOOKS.

"A Further Discovery of Bees, treating of the Nature, Government, Generation, and Preservation of the Bee. With the Experiments and Improvements arising from the Keeping them in Transparent Boxes, instead of Straw-hives. Also proper Directions (to all such as keep Bees) as well to prevent their robbing in Straw-hives, as their killing in the Colonies." By Moses Rusden, an Apothecary; Bee-Master to the King's most excellent Majesty.

Published by His Majesties especial Command, and approved by the Royal Society at Gresham Coll.

London. Printed for the Author, and are to be sold at his house next the sign of the King's Arms in the Bowling-Alley, near the Abby in Westminster: And by Henry Million, Bookseller, at the Bible in the Old Bayley. 1679.

[Frontispiece, a Colony of three tiered boxes, surmounted by the Royal arms. On the boxes a crowned King Bee, a worker, and a drone respectively. 8vo.—S. D. E.]

[4378.] Disregarding the teaching of Butler and his followers, King Charles' Bee-master asserts and with much intelligence maintains, that the ruler of the hive is a King Bee, and not a female. He is the father of all the denizens of the hive, "which may be compared to three sorts of Doggs for their different shapes; thus: the King Bee to a most stately Buck Gray-hound; the common Bee to a little fierce Bull-Dogg; and the Drone Bee to a great Mastiff-Dogg."

It was the old puzzle. How could the drones be the males when breeding went on successfully without them? What sane man could believe that the bees, self-widowed in Autumn, could produce, say, three batches of brood in Spring, and then, for their own purposes, bring forth drones by a fresh conception? Their use then was, obviously, to keep up the heat of the hive; otherwise "Honeydews would certainly draw the bees out to such a degree as their young brood might perish at home for want of a suitable heat." The real source of bee-life was "generative matter from trees, plants, flowers, &c.," brought in on the hind legs of the bees, and "put into their proper cells or matrixes." When the king failed to "inject his sperm" into any cell so furnished the matter never "animated," but "stopping up the cells, is by some called Sandarack, by others Bee-bread." Rusden explains how, in his garden at Westminster, he showed a Dr. Hobart and many others a King-bee "ejecting seeds" upon his hand. "These seeds at first had some form, as also hath a drop of liquor falling down; but dissolved with the heat of my hand which no egg or insect doth. The Doctor presently affirmed, that if there were but one such Bee in the Hive, he must of necessity be the Sire of all the rest."

We are told of what is nowadays called a demonstration, given by Rusden "at His Majesties own Bee-House in the Royal Garden at St. James Park, the King and several Persons of Honour being present." On August 28, 1677, he "presented a King-Bee, with about a score in his company for distinction, among which His Majestie immediately discerned him;" and again, to His Majestie at dinner in Whitehall he presented a comb of "right Virgin Honey," 8 in. long by 5 in. broad.

No description of Rusden's hives is needed, for, as may be remembered, he made them according to Gedde's patent. The directions for managing his boxes are admiraoly explicit, and he is careful to show how to avoid injuring the king when removing a box of comb. Once more we meet with the odd recipe, approved by Southerne and Butler, that "an Hogg musling in an Hive hath been the best wae of dressing it." It almost makes one believe with Levett that there was something in the idea.

There are three plates besides the frontispiece. One represents a swarm of four-legged bees headed by a crowned King; the leaders, commons, and drones in separate ranks. Rusden's "Further Discovery" was reprinted in 1687 as "A Full Discovery of Bees." 12 mo. —SOUTH DEVON ENTHUSIAST.

AN OLD-TIME BEE-MAN.

3. THE BEES.

[4379.] The way he first became possessed of bees sounds somewhat like a piece of romance. It must have been some time in the "sixties" when he was still well able to

ply his piscatorial art that finding the day unfavourable for fishing, he was resting about mid-day underneath the shade of some trees on the bank of the swift-flowing river, when his ears were saluted by a strange and unwonted sound. A runaway swarm of bees was fast settling amongst the lower branches of the tree beneath which he reclined. Instantly, he said, in recounting the incident, the memories of more than fifty years came back crowding on him, and he was a little boy once more in his father's garden "minding" the bees. So vivid was the impression that he actually seemed to hear his mother's voice, the very words and tones sounding distinctly on his ears though half a century had passed since he had last heard them. The old instinct, too, came back and taught him what was necessary to secure the stray and erring wanderers. "Providence," he said to me once, sent him these bees, and they became a tie to bind him to the spot, which henceforth for thirty long years was to be his home. A wanderer all his life, the old feeling was still strong within him, and hitherto he did not take kindly to a fixed residence. That swarm changed his ideas and became a tie to bind him down to that magic spot—home. How small a thing often changes the current of a life! That swarm must have flourished, for in two years they had increased to thirteen, and this he ever afterwards looked on as his lucky number, and it was the one with which he generally went into winter quarters, all of them invariably headed with young and prolific queens which were at their best the following season. What taught this unlearned man this secret of successful bee-keeping which our modern scientific apiarists make much of as a new discovery which they are only now making known to the world? Indeed, many of his modes of procedure would even to-day be counted as well "up-to-date." His start was made long before the days when BEE JOURNAL, *Record*, or "Guide Book" had seen the light of day, and when no apiarian work was available to keep him in the straight path, yet he blundered on, and somehow managed often to find the light. Everything about the apiary was the work of his own hands, and the long winter evenings found him for several years after his happy "find" intently busy in manufacturing homes for his bees in the form of round dome-shaped artistic straw ruskies of all sizes and shapes. As his family increased so did the domiciles, in anticipation of events, so that in the busy season of swarming he was ready for any emergency. He could use tools, so the number of ekes and floor-boards kept pace with the number of his hives. Generally a rough block of granite or a piece of a fallen tree trunk formed an effective stand. As the straw and wood cost him practically nothing he established his apiary on a large scale at a very small cost. Frequently he had about fifty full hives dotted along the sides of the steep slope, and as he placed them down wherever he found it most convenient or where the contour of the ground best suited, there was no order, regularity, or system in the arrangement, and they looked as if they had fallen in a shower from the sky and lain where they fell. Thus again, perhaps by a mere chance, he arranged them in the best and most favourable position for the bees, and especially for the safe homecoming of the young queens on their mating trip. Many leading apiarists hold this the best arrangement in laying out an apiary. In another of his manipulations he kept in view two of our most prized modern discoveries, viz., young queens and fresh combs. He made it a rule to "take down" all top swarms —those fifty and sixty pounders we have heard boasted about by disciples of Pettigrew —as he said they were never a success when kept. Two gains were derived from this practice—he deposed old queens, and secured all the heaviest and best-paying stools for sale. He seldom left old stocks any length of time without clearing them out, thus securing one of our most modern improvements when we take out and replace frames with full sheets of foundation in spring so as to secure fresh combs, and renew all frames in the hive every three or four years. All this, of course, gave him a chance of keeping down any signs of disease, though such a thing as foul-brood or dysentery never troubled him. As all the bees were descendants of that one swarm, modern ideas would suggest that they would deteriorate for lack of new blood, but they were as sound, healthy and prolific bees as could be desired. This, however, does not militate against the commonly accepted opinion that a change is desirable, for I doubt not his queens mated with some of the drones found in the strath below.

His enthusiastic love and admiration for the bees continued keen and bright up to the last, for I was told that even in his ninety-second year he did all the necessary labour about the hives, and would have no assistance but when lifting the heavier stocks over the sulphur pit; and in the summer of the following year he gave "chase" to a would-be runaway swarm, and was actually found asleep beside the bush where they had settled down. Life up to this time had been a pleasure and often a delight to him, but from then on it proved "labour and sorrow." Let me draw a veil over this period, and leave him to rest in peace in that quiet and shady spot where he and the "rude forefathers of the hamlet" sleep.

The memory of the past drew me to the once familiar spot during my rambles last summer, and the scene provided an object-lesson on the mutability of all earthly things. The merry hum of the bee was heard no more; the cottage had disappeared, and where the garden *had* been a wild tangle of briar and

broom, whin and heather, all but obscured any trace of its existence :—

A few wild shrubs the place disclose
Where once the bee-man's modest *cottage* rose.

Let me close this "In Memoriam" with a stanza from that immortal poem :—

We pass : the path that each man trod
Is dim, or will be dim, with weeds :
What fame is left for human deeds
In endless age? It rests with God.

F. E. I. S.

Queries and Replies.

[2652] *Bees Transferring Themselves to Frame-Hives.*—Will you kindly give me a little help through your valuable paper? A month ago I placed a skep containing a strong last year's swarm and another strong stock in a box, respectively, on the top bars of two "W.B.C." hives, the frames in which were fitted with full sheets of foundation, as directed in "Guide Book ;" but there are no signs of the bees going down into the lower hives yet. I have well wrapped them up, and as it is now the season of the honey-harvest from fruit blossoms, which are very plentiful about here, I cannot understand it. I will be glad to know what I had better do under the circumstances, as I am afraid the bees will swarm.—ALBERT G. LOCKWOOD, *St. George, Bristol, May* 20.

REPLY.—You need not have much fear of the bees swarming so long as they have to pass through an empty hive—supplied with frames fitted with full sheets of foundation—before reaching the outside. If the queen of either of the stocks placed above needs room for egg-laying the bees will take possession of the frames below and transfer the brood-chamber into the new hive. Until this room is needed there is nothing for it but waiting patiently.

Echoes from the Hives.

Chichester, Sussex, May 24.—Cold, north-easterly winds, everything drying up for the want of rain, and within a few more weeks the white clover should be in bloom, it looks a poor prospect at present for a good honey-yield. May the change come soon! All the weather seems fit for is rheumatism, bad colds, &c.

This brings to my mind the question, Are bee-stings good for rheumatism and toothache? The wife being unfortunately laid up, the doctor by chance asked if those were my bees in the garden. I answered, "Yes." "Ah," says he, "bees' stings (formic acid) good for rheumatism and toothache!" I then asked if he (the doctor) would like to have a look round, as the bees were rather vicious that morning through the wind blowing them about. I had myself just received three stings gratis—one in the head, another behind the ear, and a final one in the neck! I told him he could have some "medicine" at the same price, but his answer was, "No, thank ye." He then asked, "What remedy do you apply when stung?" "None," I answered ; "if a bee stings me on the hand, I merely suck the poison out with my tongue." "But," he said, "you cannot do that when stung behind the ear!" "No, doctor," I replied ; "but you see we are going in just now for 'long-tongued bees,' and no doubt the next thing will be long-tongued bee-keepers, so that they will be able to get their tongue round over the ear!"—J. D.

CONVERSATIONS WITH DOOLITTLE.

WORKING FOR COMB HONEY.

"Good morning, Mr. Doolittle. I came all the way from Iowa (by letter) to have a talk with you regarding how best to work for comb honey so as to be sure of securing a good crop should the season prove favourable."

"Well, not knowing your surroundings, &c., I will say that, to be successful, you must have a simple movable-frame hive of some kind. I formerly thought that there was nothing equal to the Gallup form of the Langstroth hive ; but with years of working with the regular Langstroth hive at the out-apiary, together with cellar-wintering, I am quite sure that the man who adopts the regular Langstroth hive and frame is making no mistake."

"How large a hive do you use?"

"In using the Langstroth hive I make the bodies to hold ten frames, and work all good colonies on the ten frames till the honey harvest opens, when the colonies are each confined to the number of frames the queen has brood in at that time."

"But how do you manage to confine the bees on any certain number of frames, that number being governed by those having brood in them?"

"This is done by division-boards or dummies, as you have frequently read of in the bee-papers of late. The combs not having brood in them are taken out, and one of these boards put in the hive in place of each frame taken out. In this way, the colony having brood in only six combs is as fully prepared for the honey harvest as is the one having brood in eight, nine, or ten frames, and will store fully as much in proportion to its numbers, according to my experience ; while if the whole ten combs were left in the hive, scarcely a pound of section honey would be obtained."

"Does this include all that is necessary in order to secure a good crop of comb honey?"

"By no means. But it is one of the very important factors in the matter."

"Well, what of the other factors?"

"All know that bees gather honey or nectar, instead of producing it, and that the eggs laid by the queen produce bees; consequently, the more eggs the queen lays at the proper time the more bees we have on the stage of action at the commencement of the honey harvest, and the more bees we have at that time the more honey they gather."

"That sounds very pretty."

"Yes. But it is a matter of fact as well, that the queen is really the producer of the honey; for without her no honey could come about, from lack of bees. Therefore, if we wish good returns from our bees we must see to it that we have good queens—queens that can be so worked that they will give us combs full of brood before the honey season commences, so that, when the honey harvest comes, these solid combs of brood, together with the boards taking the place of any combs not containing brood, will compel the bees to place the honey in the sections, as there will be nowhere else for them to store it."

"Very good. But how shall we secure combs full of brood and plenty of bees to do all the necessary labour, to secure the best results by the time our honey harvest begins?"

"As soon as spring opens, our bees should all be examined by lifting the frames in each hive; and any colonies which are weak in bees are to be shut to one side of the hive by means of one of the division-boards spoken of before, so as to economise the heat in the cluster of bees so far as possible, confining the bees to as few combs as have brood in them."

"But suppose there is not honey enough for food in the combs they are shut on?"

"In case there is not, I leave a comb of honey next to the side of the hive, and between that and the first comb of brood; and if a part of the cappings to the cells are broken a little on the side next to the brood, it will help on the brood-rearing so much the more."

"How long do you keep them confined to these few combs?"

"Till the queen has filled them solid full of brood, and the bees begin to be crowded out beyond the division-board."

"What then do you do?"

"As soon as the queen has filled these combs and the bees begin to be crowded on them, they are spread apart, and a comb of honey having the capping somewhat broken is set in the centre of the brood-nest, or between those occupied with brood, and in a few days' time the queen will fill this also, and thus we are to keep on till all the combs the hive will hold are filled, or the honey harvest arrives, when, as spoken of before, the queen is now limited to as many combs as are filled with brood on the arrival of the honey harvest."

"Why do you put these combs of honey in the centre of the brood rather than on the outside?"

"Because the centre of the brood-nest is the warmest part of the hive or colony; and this, with the removal of the honey, which the bees never allow (at this time of the year) in the centre of the brood-nest, stimulates the queen to greater activity at egg-laying than otherwise would be, so that we are rushing on with mighty strides toward the army of workers which are to gather our nectar during the harvest time. To this one idea of securing workers in time for the harvest, every effort of both the keeper and the bees is to be directed at this time of the year if we would succeed."

"But do you not help some of the very weakest colonies in any way?"

"Yes. As soon as the strongest colonies have their hives full of bees and brood, or even when they have eight frames full, I take a frame of brood just gnawing out and place it in the next weaker ones, giving the stronger an empty comb for the queen to fill again, and so keep on until all are full, if this is possible, before the harvest arrives."

"But does it not injure the strongest to thus take brood from them?"

"It would were we to do this early in the season; but as we do not do this till some of the colonies have their hives nearly or quite filled, it does not materially weaken them, but, on the contrary, stimulates the queen to still greater activity at egg-laying, and at the same time tends to check any desire to swarm."

"How about putting on sections? When is this done?"

"I generally put them on all good colonies a week to ten days before the honey harvest is to arrive, so that the bees may enter them on warm days and get used to going 'upstairs.' With the weaker colonies they are not put on till they are ready for them, or till they are confined to the brood they have at the time of the opening of the harvest."

"How are the sections prepared?"

"I now fill each section with the extra-thin foundation, while three or four sections to each hive should be those which are full of comb, or nearly so (called 'bait sections'), left over from the previous year, the same being those which were filled hardly well enough to be saleable. These latter are very important, as they are the means of getting the bees at work in the sections at once."

"Are not these sections filled with comb finished quicker than those with foundation?"

"Yes. As a rule these are finished from three days to a week before the others; and where one has the time, I think it pays to take these out as soon as filled, putting those with foundation in their places, thereby causing the bees to work with renewed vigour to fill up the vacant space left where the full ones were taken out. But where time is scarce, or where sections are handled by the full super, this course cannot generally be taken. This,

in short, is the way I have worked my bees for the past thirty years, during which I have been enabled to take an average of very nearly 80 lb. of comb honey each year from each old colony in the spring." — *Gleanings* (American).

NOVELTIES FOR 1901.

THE "RYMER" HONEY PRESS

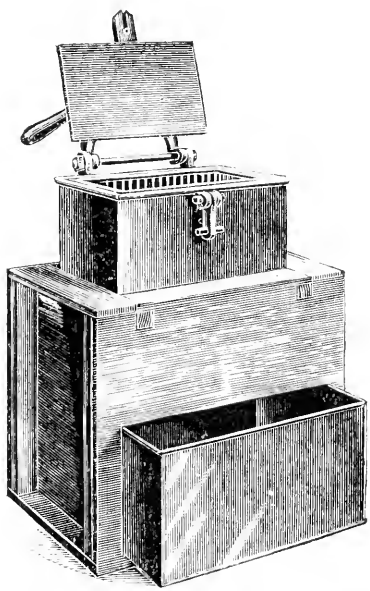
Mr. Meadows, who has the exclusive manufacture of the above-named honey press, writes us with regard to it as under :—

A somewhat similar press to that shown in the illustration below has been on the market for some time past, although now introduced in its present form for the first time. After having made a great many honey presses of various kinds during the last ten years, I can confidently recommend the "Rymer" as the best we have so far manufactured.

It is simple in construction and very easy to manage and keep clean. The principal parts are light malleable-iron grates which can be easily removed for cleaning, &c. All the parts coming in contact with the honey are tinned.

Two similar presses are made at a moderate price, bringing them within the reach of all bee-keepers.

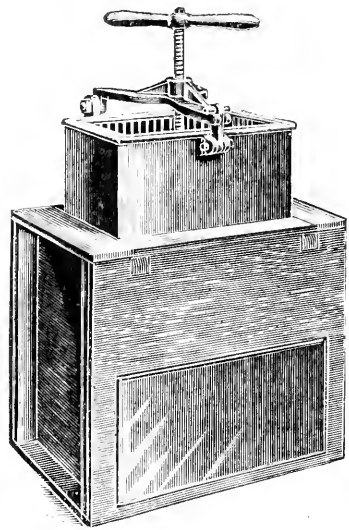
They are the most effective wax-extractors on the market. The combs tied up, warmed,



Open for Filling

and placed in press are cleared in a most effective manner. For fruit syrups and many other household necessities they are invaluable.

Mr. Rymer's personal testimony with regard to the press is a conclusive proof of efficiency ; it reads as follows :—"The inventor, with the



Closed for Pressing.

aid of his wife to assist and a boy to screw on the caps and label, completed 112 jars in thirty minutes, a record impossible with any other press."

Bee Shows to Come.

June 12 and 13 at Colchester.—Honey Show in connection with the annual Show of the Essex Agricultural Society. Liberal prizes for Honey, Beeswax, and Appliances, mostly open classes. Schedules from Mr. W. J. Sheppard, Hon. Sec. Essex B.K.A., Chingford, Essex. **Entries close June 4.**

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society ; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

July 24, at Broughton, Hants.—Broughton flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries close July 11.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three open classes for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe, Northampton. Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for

bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford R.S.O., Carmarthen.

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Four prizes for Honey-Trophy, medals, and diplomas.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MR. J. PALMER, Chichester, writes:—"Referring to the mention of early swarms in last week's B.B.J., we had a good swarm here on May 19."

L. C. (Hants).—*Bees Dying in Spring.*—There is nothing in dead bees sent to indicate the cause of death in April last. It is also about certain that they have not been tampered with by some "evil-minded person," as suggested. It is more likely that both colonies have had their stores "robbed out" by the bees of other stocks kept in the neighbourhood, and that they afterwards died of starvation. This is a common occurrence in spring where hives are—as in your case—left for some time without any supervision. A little personal watchfulness at the time might have stopped "robbing" at the outset, and thus prevented further mischief.

C. M. (Wimborne).—*Ordering Italian Queens from Abroad.*—We think you need have no fear of queens not being duly sent. The weather until quite recently has been too cold for bees to undergo a long journey with safety. The advertiser is a perfectly reliable man, and his advertisement will appear in our pages again as originally ordered.

JAS. PALMER (Chichester).—*Queens Laying Several Eggs in One Cell.*—1. The bees sent are hybrids (Ligurian crossed with black). Queens lay in erratic fashion by depositing several eggs in one cell either when their fertility is so great that a weak stock cannot cover the eggs or generate sufficient heat to hatch them out; hence in the few cells occupied eggs are duplicated in the way named. The same thing sometimes happens when queens are becoming old and worn out.

T. DANIELS (Sussex).—*Combs Built Across Frames.*—The task of "setting to rights" a frame-hive with combs "built across frames and joined together" is beyond the powers of a novice. You should seek help from the local Secretary of the Sussex B.K.A., through the Hon. Secretary, Mr. H. W. Brice, 100, Brigstock-road, Thornton Heath.

R. GODSON.—The insect is *Trichiosoma lucorum*, a kind of saw-fly, which is common at this time of the year in all parts of the country. The larva resembles a caterpillar, and feeds on the hawthorn. It passes the winter in a hard cocoon, which is attached to the branches of the hawthorn, and the perfect insect emerges about now. The specimen sent must have entered your hive by accident, or it may have been attracted by the sweet smell emanating from the entrance. At any rate it is perfectly harmless, and cannot be regarded as an enemy of the honey-bee. Another specimen of this insect, accompanied by a similar account to yours, has reached me by the same post (see below). Probably the species is unusually abundant this spring. —F. W. L. S.

J. H. WILLCOX.—The name of the insect is *Trichiosoma lucorum.* See above reply to Mr. R. Godson.—F. W. L. S.

J. D. (Chichester).—*Bee-Garden Pictures.*—If a good photo of your apiary is sent we shall be very pleased to include it in our "Homes of the Honey Bee." A clear, sharp picture is necessary to make a good tone block.

W. NICOL (Inverary).—*Wild Bees.*—The insects sent are wild bees. They belong to the Order Andrenidæ (subnormal bees), species *Andrena fulva.* They gather pollen just as hive bees do, and are not seldom mistaken for the latter.

CH. H. B. (Newmarket).—*Joining B.K. Associations.*—The Hon. Sec. of the Cambs B.K.A. is Mr. C. N. White, Master, Union House, St. Neots.

M. T. (Colgate).—*Ants about Hives.*—The leaves of plant sent is the herb commonly known as tansy, which is useful in keeping ants from crawling up legs of hives.

S. S. H. (Darwen).—*Queen Cast out of Hive.* —The queen (a fine Italian) has been badly ruptured by some mischance, probably in lifting out the frame on which she was without sufficient care. Her ovaries are destroyed.

"RUG" (Westbury-on-Trym).—Queen sent is, we think, not the one that headed the stock last year, but an unfertilised queen raised since the death of old one.

Suspected Combs.

G. G. (Cornwall).—The two samples of comb to hand are different from those first received. No. 1 contains both rods and spores of foul brood; No. 2, rods only. With regard to the time for development of spores, it depends entirely on circumstances. For instance, in warm weather and plenty of natural food available, spores are seldom developed

A. P. (Hading, Essex).—The samples of comb received contain no trace of brood, diseased or otherwise, nor has there been any brood raised in the comb this season. The pollen in cells is sweet and wholesome, so that no harm could have followed the visit of bees to it.

E. M. (Royston).—Comb is about as badly affected with foul brood as it is possible to be. To purchase such a stock of bees as the one it came from is infinitely worse than throwing the money away.

CONSTANT READER (Conway).—Foul brood is developing in comb sent.

F. HAMSHUR (Sussex).—There is no disease in comb, but the queen is clearly a drone-breeder; all the worker-cells contain drone-larvæ.

ANON (Blackpool).—It is very dangerous to use combs from stocks affected with foul brood.

Special Prepaid Advertisements

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash W. CHILTON, The Apiaries, Polegate, Sussex.

STRONG 3-frame STOCKS with tested fertile queens 10s. 6d.; swarms, 10s. 6d.; delivered June; guaranteed healthy. AVERY, Ripley, Surrey.

SUNDRY bar-framed HIVES FOR SALE, cheap, or exchange for reliable bicycle. Address, 4, Charles-road, Birmingham. G 5

ANYONE requiring ASSISTANCE or REPRESENTATION at the coming Colchester Show, apply, "BAYLEY," 6, High-street, Brightlingsea. Well up in bees and appliances.

CARNIOLAN HYBRIDS, five frames, 20s.; three frames, 12s. 6d.; queens, 5s. FRANK REED, Portslade, Sussex.

"W.B.C." HIVES; zinc covered roof, painted. CARAH, 10, Pemlee-place, Mutley, Plymouth. F 99

BEES.—FOR SALE, one strong STOCK on 10 frames. Miss I. MARGESSON, Findon, Worthing. F 98

SIX SKEPS of BEES. Guaranteed healthy, with young Queens, 9s. each; three for 25s. For immediate disposal. SPEARMAN, Colesbourne, Cheltenham. F 95

FINE SWARM, 10s. 6d. Good healthy STOCK, Manchester hive, complete, 27s. 6d. JORDAN, 39, Badminton-road, Bristol. F 91

FOR SALE, "LITTLE WONDER" EXTRACTOR, nearly new, 5s. CATERER, Shirburn, Oxon, Wallingford. G 1

YOUNG FERTILE QUEENS (1901); my Prolific Strain 3s. 6d., Virgins, 2s.; delivered. E. CARBINES, "Apiary's," Cardinham, Cornwall. F 92

BEE HOUSE to hold 8 stocks; new last year; price £2; guaranteed free foul brood. W. LONG, North-road, Mere, Wilts. G 2

Prepaid Advertisements (*Continued*).

WANTED, "British Bee-keeper's Guide Book," 1st Edition, 1881, in fair condition, as issued. Also Thorley's "Female Monarchy," 3rd Edition, 1772. Col. WALKER, Leeford, Budleigh-Salterton. F 97

BEES of my well-known strain. Guaranteed healthy. Natural June swarms, 1900 Queens, 3 lb. 10s. 6d., 4 lb. 12s. 6d., 5 lb. 15s. C. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. G 3

STRONG STOCK BEES, on ten frames, ready for supers. Price, 17s. 6d. only, box free. May swarms, strong, 10s. in new skep, 1s. 6d. extra. RUSSELL OAKLEY, Christchurch, Hants. F 94

STRONG healthy natural SWARMS, 10s. 6d. and 12s. 6d., with 1900 Fertile Queen; three doz. Howards' wide top bar shallow frames, 1s. 6d. doz. Handsome cream coloured Nanny Goat, age 18 months, 12s. 6d. WOODS, Normandy, Guildford. F 93

MUST BE SOLD at once, 10 STOCKS of BEES in frame-hives; extra section-racks and other appliances; no reasonable offer refused. Apply to Mrs. ASHER, care of Mr. Mussell, 54, Cambridge Grove-road, Norbiton, Surrey. G 4

PROLIFIC QUEENS; imported Carniolans 8s. 6d. Italians, 6s. 6d.; home-bred, from imported mothers, 5s. 6d.; also common swarms, from 10s. 6d. Stocks and nuclei at fair prices. Last year's customers are ordering again. Comment unnecessary. WOODHAM, Clavering, Newport, Essex. F 96

SWARMS, 10s. 6d. Order now. J. J. W. ROGERS, Heath Apiary, St. Albans, Herts. F 62

QUEENS.—1901 fertile and tested Queens, 5s. each. Virgin Queens, 2s. 6d. each. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Rev. C. BRERETON, Pulborough, Sussex.

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

PRIME SWARMS of superior BEES, 15s., 12s. 6d., 10s. 6d. Packed free. WALTON, Honey Cott, Weston, Leamington. F 81

GOOD natural SWARMS FOR SALE, 10s. each. H. HOLLEWORTH, Manor Farm, Wysale, Notts. F 78

FOR SALE, healthy SWARMS, 8s. each, or 2s. 3d. per lb. Cash with order. WHITTING, Manea, Cambs. F 87

FOR SALE, twelve STOCKS of healthy BEES in fine condition, with supers on. All in "W.B.C." hives. Mrs. ASHBY, 110, Liverpool-road, Birkdale, Southport. F 76

NEW TALL 1-lb. SECTIONS, 100, 3s. 9d.; post free. All sizes of sections and separators supplied promptly. F. SLADEN, Ripple Court Apiary, near Dover. F 83

25TH YEAR.—STOCKS, six wired frames, 16s.; eight, 18s. Swarms, 10s. 6d., 12s. 6d., 15s. Reliable Queens, 5s. Packages free. ALSFORD, Expert, Blandford. F 88

PRIME June SWARMS of healthy ENGLISH BEES, 10s. 6d., 12s. 6d., and 15s. each, headed with last year's queens. Packing and box free. W. WOODLEY, Beedon, Newbury.

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

GOOD light coloured HONEY, 1 cwt. at 5½d. per lb.; 1 cwt. 2nd grade, 4½d.; 2 cwt. of dark, 3d. per lb. all in 32-lb. tins. Samples 2d.; tins free. W. HAWKES, Barley, near Royston, Herts. F 51

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

"W.B.C." HIVES, FEEDERS and WAX EXTRACTORS.—Make your own at third the cost. For particulars send stamp. PRIDEAUX, Whitchurch, Salop. E 71

Editorial, Notices, &c.

THE "BATH AND WEST" SHOW.

ANNUAL EXHIBITION AT CROYDON.

The annual show of the above Society was held at Croydon on May 22 to 27, on a site particularly adapted for the purpose adjoining the Addiscombe-road, and within a few minutes' walk of the Croydon railway station. To the Surrey man the show, from a county point of view, was of great interest. One of the most important sections was that devoted to an exhibition arranged by the South-Eastern College at Wye, an institution which is kept up by the County Councils of Surrey and Kent, and is doing good work in the advancement of scientific agriculture. Still more closely connected with Surrey was the exhibition of the Surrey Bee-keepers' Association, who show a collection of modern apiarian appliances. There were on view three observatory hives, in which the bees could be seen working on the comb. Information on every detail connected with the keeping of bees was willingly given by the Hon. Secretary of the Society, Mr. F. B. White, of Redhill, a gentleman who has laboured untiringly and with the most satisfactory results on behalf of the bee-keeping industry in the county.

Mr. White had arranged for lectures and demonstrations of bee-keeping in the tent of the S.B.K.A., commencing each day at twelve o'clock, and continuing at frequent intervals till evening. The lectures were attended by very numerous audiences, who seemed extremely interested in what they saw and heard.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE LEGS OF THE BEE.

[4380.] We are all familiar with the sight of the house fly walking on the ceiling with its legs above its body. It is equally at home on the wall or window, and can walk with equal facility whether its course is at an angle, horizontal, or perpendicular, and with its head either up or down. Bees perform the same wonderful feats as they go about their daily duties, with the added disadvantage that they do it all in the (to us) dark interior of the hive. Now, the means to this end are specially and admirably adapted in both cases. Bees and flies are provided with six legs, a necessity to secure stable equilibrium in such positions as they assume. In the case of the bee these legs are arranged in three pairs—anterior, intermediate, and posterior—and they are attached to the three separate segments of the body. The middle two are attached to the middle or mesothorax, and seem to be mainly balancing appliances. The first point worth noting is the difference between the extremity of the fore and hind legs. The shape of the forward pair so much resembles hands that they are known scientifically as palmæ, while the hinder pair are spoken of as the tarsæ, or feet. The anterior pair are, therefore, found to perform duties somewhat analogous to those performed by our hands—such as what I may call "washing" the face of the bee, and in particular cleaning up the antennæ or feelers. The special apparatus for this purpose is situated at the middle joint and is known as the sinus. It consists of a cavity with a large number of hairs surrounding it, these forming what is called the pecten or comb. Bees can often be seen performing this wonderful operation. Inserting the antenna operated on in the sinus, it draws it along, pressing it against the hairs of the comb which surround the incision. Generally at least the right is cleaned up by the left and *vice versâ*. Every one must have observed how bees form festoons while comb-building, and how they cling in clusters when out swarming, so it may be well to note how they do it. They have strong hooked claws on their fore feet, and by these they cling to the roof of the hive, while the next bees hang on to the hind legs of the first lot. Thus suspended they form a set of chains which are used as so many roads and bridges by the comb-builders while engaged in the construction of these "galleries of art." The claws also aid the bee in walking over a rough uneven surface, as by digging these into the hollows or depressions, it is enabled to progress with comfort and freedom. When the surface is smooth as glass another part of the foot is called into play, and does duty in enabling the insect to walk steadily and prevent it from slipping, as one would do on smooth ice. This is the pad or cushion lying in the hollow of the foot and surrounded by the claw. It is provided with a kind of gum or glue which the bee can exude at will and so enable it to preserve its equilibrium, or, as in the case of the fly, to walk, so to speak, on its head. This it can do with wonderful acrobatic ease, and it seems, in the way of terrestrial locomotion, to be as much at home in the one position as the other. As the first and second pairs of legs are, generally speaking, replicas in their

various joints of the posterior pair, it will be sufficient to name in detail the parts of only one set. The legs of worker, drone, and queen are in this respect very much alike, though differing somewhat in shape and functions in particular parts. We have in the leg altogether nine joints—the hip-joint or coxa; the trochanter, forming a connection with the next, which is the femur or thigh; the tibia or shank; and the tarsus or foot. The last-named consists of five parts, all short but the one at the extreme, which is almost equal in length to the other four. These joints collectively form the tarsus or foot.

The posterior or hinder legs are attached to the posterior ring of the thorax, and deserve special study because they contain the so-called baskets with which the bee carries home its loads of pollen and propolis. It will be noticed that the whole leg is sometimes covered with pollen retained there, especially on the tibia, by long feathery hairs, but the corbicula proper is placed between the tibia and planta. The strong closely-set hairs surrounding it retain the balls or pellets firmly and securely in position. These, when they are carried into the hive, are deposited in the cells, and packed there by the nurse bees with the help of their hind feet and head. I had an excellent opportunity lately of observing the "loading-up" process going on when watching the diligent little creatures working on artificial pollen, and almost as good a field of observation when they were engaged on the crocus beds. What deft and skilful artificers they proved themselves, and how admirably each appliance they are fitted with is suited to the particular function it performs. The feet, especially the "hands," play an important part in shifting the wax scales from the abdominal rings in which they are secreted, and in depositing and adjusting them in position when the process of comb building is going on. So the legs, in addition to being organs of locomotion, perform a multiplicity of other functions at which I have merely glanced.—D. M. M., *Banff, N.B.*

SOME ESSEX NOTES.

[4381.] *Stockade Erected by Bees.*—Herewith I enclose a wide pillar of propolis which I found the other day erected in front of the entrance to a skep (inside) in the form of a stockade. It is now somewhat reduced in size through crushing while warm and soft. As you will observe, the stockade was secured to the skep above and carried down to the floorboard, the bees passing in and out of their hive by a narrow passage on each side of the pillar of propolis. I have only once before known of a similar erection by bees in this country, though, I believe, bees usually do this in warmer climates, where hornets, &c., are troublesome to bees. This is another proof of the ability of bees to adapt themselves to circumstances. Moths and other winged enemies of bees were very troublesome last year, and I have no doubt that the bees erected this stockade for their protection when their enemies began to be so persistent in their attacks. I do not remember large moths ever having been so troublesome at night to bees as they were last year.

Two or More Queens in a Hive.—Another thing I saw a few days ago in examining a strong stock of bees is somewhat uncommon, though I think four cases of two queens being found in a hive have been brought to notice during the last twenty years. In the case of the stock which I examined, the old queen was carrying on her duties as though nothing was happening, while a batch of young queens were then hatching; two were already out of their cells, and the weather was and had been such as would not prevent a first swarm leaving the hive.

I also found this spring, under the board of a skep, set directly on the ground, three large and fat lizards, which I think accounted for the remains of some hundreds of bees which I found at the back of the skep, where a sack reached down to the damp ground.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

BEES AND SPARROWS.

[4382.] The letter of your correspondent, "Ebor" (4368, page 206), reminds me of a similar experience I had last year. My apiary is situate in the garden, and I noticed after the young sparrows had flown from the nest, that they, along with the old ones, spent a good deal of time near the bee-hives. After watching them for some time I noticed the old sparrows perched on top of the hives, and now and again making a dart caught any bee that came near; indeed they sometimes lighted on the ground in front of the entrance and picked up any poor bee that had fallen down too heavy-laden to reach the alighting board, and carried them off to where the young sparrows were waiting, and, in the midst of great rejoicing, devoured them. I will leave you to guess what were the feelings I had to see my workmen so ruthlessly destroyed, and sparrows are now, and ever will be, classed by me among the worst enemies of bees. I regard them as far worse than tom-tits.—W. C. B., *Montgomeryshire, May* 30.

BREEDING DRONES, &c.

[4383.] Referring to "Notes by the Way" page 212), Mr. Woodley is quite wrong in the inferences he draws from my letter on page 204. My point is that bees will raise drones, do what we will to prevent them, and, as with queens, the best drones are raised at the lower outside corners of the frames. In the way they elongate the cells, they seem to radiate them, as it were. I cannot see how the "sag" comes in, as, of course, drone-cells

will be exactly on opposite sides of the same frame, even when the frame has drone-cells from top to bottom and from outside to outside, as in the case referred to. I always thought "sag" meant to "droop out" of a straight line, *e.g.*, telegraph wire between the posts. Would "buckle" more correctly express Mr. Woodley's meaning? But they do not buckle even enough to account for drones on both sides of frame.

Under the circumstances, I think it best to keep to the "unnatural" plan of restricting the number of drones as much as possible, and at the same time controlling and preventing swarming.

Bees with me just now are well covering eleven and twelve frames, and well up in four frame supers, and if weather continues fair shall have section-racks on in eight or ten days.—A. HARRIS, *Wavendon, Bucks, June* 3, 1901.

ANCIENT BEE-BOOKS.

"MELISSHAOTIA, or, the Female Monarchy. Being an Enquiry into the Nature, Order, and Government of Bees, Those Admirable, Instructive, and Useful Insects. With a New, Easy, and Effectual Method to preserve them, not only in Colonies, but common Hives, from that cruel Death, to which their Ignorant, Injurious, and most Ingrateful Owners so commonly condemn them. A Secret unknown to past Ages, and now Published for the Benefit of Mankind. Written upon Forty Years Observation and Experience. By the Reverend Mr. John Thorley, of Oxon.

London: Printed for the Author; and sold by N. Thorley, at the Lock and Key facing the Mansion-House; and J. Davidson, at the Angel in the Poultry, Cheapside. 1744.

[Frontispiece, three formidable worker-bees, full 2½ in. long. The two upper are gathering from a conventional plant; the third displays its sting.—S. D. E.]

[4384.] Readers should note that Warder's "True Amazons" was published in 1712, almost evenly dividing the period between Rusden's book last considered, and that now before us. It ran through at least nine editions, and was translated into German and Italian. For description, see Mr. Headley's paper [4181] last vol. B.B.J.

Thorley dates the preface of his "Melisselogia" (Discourse on Bees) from "my study at Chipping Norton." He was evidently a devout and loyal clergyman, and a long list of subscribers testifies to his popularity. There were apparently three subsequent editions, 1765, 1772, 1774, the two first edited by N. Thorley, the author's son. I have not seen the 1774 edition. A German edition was brought out in 1765.

The progress of microscopy enabled Thorley to give a more detailed anatomical description of the bee than could be attempted by his predecessors. After a long discussion of the "Sorts, Sex, and Manner of Breeding," in the course of which Purchas, Rusden, and Warder are somewhat severely criticised, he decides that the queen is the only female of the hive, and that the workers are neuter. The drones, in view of the great number of them and their absence when most wanted, could not be males. "Bees do not breed by copulation, and without the Queen they cannot breed. . . . . The full decision must be left to future Time and the Generations which are to follow."

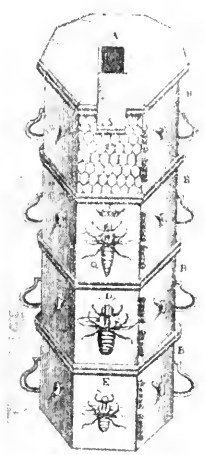
Had Thorley's powers of deduction equalled those of his imagination he would have gained an enduring fame. Listening at a hive just before swarming he could hear "the greatest Lamentation" among the Branches of the Royal Family; notes of woe expressive of the deepest sorrow as tho' they were taking an eternal Farewell of one another. It was really in some measure moving and affecting." He could imagine "tenderest, most affectionate Embraces, with Floods of Tears."

And yet, when one day Thorley observed "the Honeydew descending like an exceeding fine Rain, and easily discerned it against the Light of the Sun for many hours," he could not go a little step further and anticipate the discovery made by the Abbé Boissier in 1763 under similar circumstances, that the fine rain was a discharge from Aphides infesting the leaves above him. Another time, "very desirous and diligent to find out how, or where, Bees brought home their Wax," he caught one "of an unusual Appearance, as she fixed upon the alighting Place," and found "upon the Belly of this Bee, within the Plaits, no less than six Pieces of solid Wax." Here was a discovery. Yet it went no further, and he remained under the impression that the wax was "gathered" from some outside source. Mr. Cowan tells us in his indispensable little book, "The Honey Bee," that a German doctor named Martin John had made a similar discovery in 1684. I should be very glad to learn the extent of it; but, as far as I know, if Thorley had gone only a little further he would have scored for himself and country a credit which has been allotted elsewhere.

He was, however, the first to advocate the use of a "Narcotic, or stupifying Potion" (his "Secret unknown to past Ages"), when uniting weak colonies in the autumn, in preference to destroying them. This was a large fungus called "Bunt, Puck-fist, or Frog Cheese," fairly common in meadows, to be pressed and dried in an oven. A piece about the size of a hen's egg was to be burnt on the end of a pointed stick inside an inverted hive, over which the hive to be operated on was placed. In about a minute "you will with Delight hear them drop like Hail into the empty Hive." The queen was then to be searched for and set aside, and the other hive to be treated with the same narcotic. This done, the bees of both hives were sprinkled with sugared ale, joined into one hive, and shut up for a night and a day. The narcotising system continued in use amongst English bee-keepers until our modern frame-hive had been universally adopted, as may be learned in the early numbers of the BRITISH BEE JOURNAL.

We are thrilled with the tale of what happened to the reverend gentleman's maidservant, Anne Herbert, when helping him to hive a swarm which had settled "among the close-twisted branches of some Codling-Trees. Having never been acquainted with Bees, and likewise afraid, she put a Linnen Cloth over her Head and Shoulders, concluding that would be a sufficient Guard and secure her from their Swords." The bees when shaken off the boughs got under this covering and clustered over her head and neck. Happily, both master and maid kept their wits, and at Thorley's earnest entreaty she stood still while he hunted out and caught a queen. But the bees still remained; so he searched again and found another queen, or perhaps the same one returned. This one being lodged in a hive with some companions, "in the space of two or three minutes the maid had not a single Bee about her. . . . . And ever after she would resolutely undertake the most hazardous services about these bold, daring, and undaunted Animals while she remained (for some years) in my family."

Hearing that Dr. Warder (author of "The True Amazons") was making "no less than £50 per ann." by his bees, Thorley rode to Croydon to "learn if possible his way of management" In the Doctor's absence his son-in-law showed the apiary. Thorley is critical. "The Front of his Colonies made an appearance not at all agreeable, being painted with Lions, and other Creatures, which I looked upon as foreign to their Improvement. And when I came to examine his Hives, but especially his Boxes, I found them so contrary to common Report, as proved a greater disappointment . . . . all the annual profits of his Apiary could not amount to Ten Pounds. I afterwards drank some of his Mead, of several Years old, which was very good."



Thorley's Hive.

Our Editors have kindly copied, half-size, Thorley's plate of his own hive, seen from the back, four boxes tiered: the Transparent Octagon Hive in its full glory. Each box had one window only, as in Mewe's original hive, protected by a hinged shutter. The uppermost shutter has been removed, allowing a comb to be seen through the glass. The brass heads of the deal bars to support the combs, two to each box, crossing, can be seen to right and left, as also the box handles, and the disconnecting slide at the top.

In another plate are shown six similar colonies in a bee-house. The mouths of the colonies were painted with different colours "that the Bees may the better know their own House." A third plate shows a gentleman, probably the author, in wig and gown, sitting in his study and taking notes, while with his left hand he turns over some bees "sleeping upon the table." Through the window six skeps on a bench, and bees swarming on a bough.

With Thorley's "Melisselogia" ends my tale of ancient bee-books. I reserve some general observations for a concluding paper.—South Devon Enthusiast.

"NASSONOFF'S" ORGAN IN THE BEE.

[4385.] The other day I chanced to do a simple thing in my apiary which demonstrated so well the scent-producing function of Nassonoff's organ (described recently in the Bee Journal) that I should be glad if you would allow me to explain it in order that other bee-keepers may, if they wish, distinguish for themselves the peculiar scent produced by this organ in the same easy way that I did.

I simply lifted a frame of brood, covered with bees, out of the centre of one of my stocks and carried it into my honey-house.

As soon as I had got into the honey-house almost all the bees on the comb joined in setting up the well-known "joyful hum" and, elevating their abdomens, they protruded Nassonoff's organ. I at once detected the peculiar pungent odour produced by this organ, and on bringing my nose close to the comb the scent was quite powerful.

No doubt the scent will be recognised by many as a well-known one, but it is interesting to be able to observe for one's-self the way it is produced by such a simple experiment as this.

The reason why the bee emits this scent is a subject of still greater interest, which is touched upon in the article referred to above. —F. W. L. Sladen, *Ripple Court, Dover.*

(*Correspondence continued on page* 226.)

HOMES OF THE HONEY BEE:

THE APIARIES OF OUR READERS.

Our friend Mr. Middlemass, seen on next page, is a reader who, to use an expressive common phrase, "fills the bill" as a bee-keeper of the best sort; one who loves his home, his garden, and his bees, and wins prizes at important shows for honey and flowers; who makes his own hives, knows how to prepare his honey for market, and has no difficulty in selling it. Need we say more, except

to express our pleasure—after reading his final par about himself—at his possessing a good bee-man's "good wife?"

"In compliance with your request I send a few particulars of my bee-keeping experience. I have now used the frame-hive for about fifteen years, having previously seen a good deal of the old-fashioned skep. The district where my apiary is located is not a particularly good one for clover honey, so that I cannot come up to the standard of some readers whose bee-gardens have been depicted. As a rule I find two racks of sections about sufficient for my surplus of one season, though occasionally I do put on three racks for an extra strong colony. You may therefore say I work on the storifying system. It makes one wish to be in a district like 'Beedon,' so that I might, as our friend 'Woodley' does, take off sections in eight days after putting on! It will be seen by the photo that my hives are placed to look in three directions, although most of them are facing south; the entrances of the others fronting east and west. The hives are nearly all of my own make, for I am a bit of an amateur carpenter. I went into winter quarters last year with thirty-three hives, including three on the 'Wells' system, with which I get on very well as a rule, for each 'Wells' hive generally averages more than two single ones. Of course I always count each 'Wells' hive as two. When at the moors I also pay double dues for every 'Wells' taken. Within the space inside each row of hives may be seen flowering plants, such as roses, dahlias, gladioli, &c., and with these I used to 'go in' for a good deal of exhibiting at flower shows, but now the flowers take second place, with honey first. During very hot weather, however, they make a fine shade for hives. The latter are painted four different colours, and stand in rotation—red, white, green, and stone colour. This plan of using widely different colours is most useful for young queens safely mating; I scarcely ever lose one now. Strange to say, my red coloured hives often do best.

"The glasshouse seen on the right of photo is a tomato-house which I use a good deal during the season for bee-keeping appliances. Of course our main source of honey is heather, and, in consequence, the hives are all made so that they can be easily packed for travelling about nine miles to the moors. They are all made to take frames of standard size and are single-walled; each body-box holding ten frames. I go in mostly for comb-honey, and have not only exhibited a good deal but have been very successful on the show-bench from the Dairy and 'Royal' downwards to the smaller shows. Regarding the disposal of produce, it can be truly said that I never have any difficulty, although a great many bee-keepers on a small scale about our district 'cut' prices sadly, not a few selling their

MR. E. MIDDLEMASS' APIARY, STANFORD COTTAGES, ALNWICK, NORTHUMBERLAND.

clover sections at 6s. per doz., whereas I am cleared out at nearly an average of 9s. per doz. for glazed sections. I am always very careful to grade my sections and put them into the market in as clean and neat condition as possible. I sell most of my produce wholesale in the northern towns, and having a good trade among the higher classes I believe in sending out a good article. By so doing one may expect orders. I always extract or press the contents of all unfinished ones.

"The figures seen to the right in photo are my better-half, oldest son, and myself. I need hardly tell you that I land most of the glazing and bottling on to my good wife's shoulders, and she does it up 'right well.'"

CORRESPONDENCE.

(*Continued from page* 224.)

A PROMISING OUTLOOK IN HUNTS.

[4386.] We are having splendid weather here, bees working well on turnip plants and raspberry bloom. I took off my first twelve sections to-day, all well sealed over. We have never had a better season for bees working on the early fruit blossom, and there is a good show of plums and gooseberries.

I have just returned home from our local railway station, where they have put on train three tons of gooseberries sent to the various markets. This shows how essential it is to keep bees for the fertilisation of fruit. We have very much to be thankful for.—R. Brown, *Flora Apiary, Somersham, Hunts, June* 3.

P.S.—When putting on a box of shallow-frames on Saturday evening last I found I had another "colony of bees" between the quilts. A bumble-bee had commenced a nest of three cells, finding an entrance through the ventilating hole in the roof. I wonder if Mr. F. Sladen has had this experience?—R. B.

EARLY HONEY IN KENT.

[4387.] I see on page 213 of last week's B.B.J. mention is made of early honey. We have had a very late season here as in most other parts, but I think one of my stocks has done exceedingly well. What is your opinion? It was supered on April 29 with sections. I raised sections and placed shallow-frames under about a fortnight later. On May 25 I had a large swarm from it, weight 6½ lb., and the same evening removed the sections all full of honey and all but half a dozen sealed over. From the shallow-frames I have extracted 20 lb. of splendid honey, and to-day, June 3, I have had a second swarm weighing nearly 4 lb. The queen is two years old this June, and last year the same hive gave me over 80 lb. of honey. Wishing to increase my stocks, I have kept the swarms instead of returning them as I generally do, first removing the queen. I may add the first swarms have already filled the brood nest of ten standard frames and are at work in the super. From two other stocks I have already extracted 20 lb. of honey each.—Fredk. R. Court, *Green-street, Kent, June* 3.

[We congratulate you on the promising start made.—Eds.]

EARLY HONEY.

[4388.] It may interest you to hear that my bees appear to have done as well as those in more favourable spots this year. I noticed seven fully-sealed sections in one of my hives last Tuesday (May 28). This, I think, compares favourably with the reports from Essex and Devon on page 213 of your issue of May 30. Had I not formed a nucleus, and also removed a frame of eggs from this colony some three weeks ago, the result might, perhaps, have been even better.—G. J. G. J., *South Norwood, May* 30, 1901.

MR. RYMER'S BEE-ESCAPES.

[4389.] Referring to the letter of "W.C.H." (4367, page 204) I do not see I could do any good by giving full details of my escapes. Suitable material is bad for amateurs to get. I have forwarded a pattern to the manufacturer named in Mr. Willcox's letter (4377, page 214), and as they can be bought for a few pence it is far better than making your own. I was bound to make mine in the first instance as there was no such thing on the market and I was compelled to have them in order to clear my additional brood-chambers when preparing for the heather harvest.—J. Rymer, *Levisham, Yorks, May* 30.

NOTES FROM WYCHWOOD FOREST.

[4390.] The winter we have recently passed has played sad havoc amongst the bees in this district. From all sides come reports of loss of stocks (in some cases valuable ones) by starvation. I also hear of instances where nearly all the bees kept have perished. It thus becomes plain that the man who thinks that in order to reap "golden gains" he has only to fix up a hive, get some bees, and let them take their chance, makes a mistake. This sort of bee-keeper (?) will have some hives, &c., to sell cheap. Sensible men who try to keep bees will, however, note very emphatically the fact—often pointed out in your pages—that for bees to come out well in the spring they must have ample stores to winter upon. An empty cupboard means death to mankind generally, and the same applies to bees.

On the other hand, the honey is now coming in, and bees are very busy; those in fettle for work are going ahead in promising style, while

the failing ones must be pushed ahead with all speed so as to catch the honey later on.

Though the season is late, with favourable weather I think there is promise of a very good one, for though the field blossoms are not much in evidence yet, honey is coming in, and the main crop has yet to come.

The other evening we were favoured with a lecture in board-school room on bee-keeping, by Mr. Humphis, of Thame. The audience was small, but very much interested in the matters relating to the craft Mr. Humphis set before us. A pleasant and profitable hour was spent, and we are looking forward to his next visit, expecting a good time.—J. KIBBLE, *Charlbury, Oxford.*

WEATHER REPORT.

WESTBOURNE, SUSSEX,
MAY, 1901.

Rainfall, ·87 in.
Heaviest fall, ·27 in., on 8th.
Rain fell on 6 days.
Below average, ·91 in.
Maximum Temperature, 70°, on 29th.
Minimum Temperature, 32°, on 8th.
Minimum on Grass, 19°, on 3rd.
Frosty Nights, 1.
Sunshine, 291·3 hrs.
Brightest Day, 23rd, 15 hours.
Sunless Days, 0.
Above average, 50·5 hours.
Mean Maximum, 61°.
Mean Minimum, 41·6°.
Mean Temperature, 51·3° (exact average).
Maximum Barometer, 30·52°, on 12th.
Minimum Barometer, 29·36°, on 8th.

L. B. BIRKETT.

Queries and Replies.

[2653.] *Making Artificial Swarms.*—I shall be grateful for a brief answer in BEE JOURNAL to the following questions :—

I had three stocks in frame-hives, and on May 25 artificially swarmed by taking two frames of brood and eggs from No. 1, three ditto from No. 2, and then putting a hive containing these five frames, plus two empty frames, on stand of No. 3 stock, moving the latter to a new position.

On May 29 examined artificial swarm thus formed, and found several queen-cells started.

With reference to keeping queens in nuclei, the "Guide Book" says there is a danger of the whole of the bees leaving the hive when the young queen leaves for her nuptial flight unless a frame of brood be inserted. 1. Is there the same danger with my artificial swarm? as by the time the young queen is ready to fly nearly all brood on frames will have hatched. I may add that on May 29 I supered the hives numbered 1 and 2 above, and do not wish to disturb them if possible, and the third stock, which has lost all its flying bees, seems too weak at present to be further robbed ; so I do not wish to have to take another frame of brood from the old stocks, unless the safety of the artificial swarm depends on having one inserted before queen flies. 2. I suppose the weakness of No. 3 is more apparent than real, as it will grow stronger by constantly hatching brood. Would it help if I feed it—honey seems fairly plentiful now? —"PUCK," *Fareham, Hants, May* 31.

REPLY.—1. The conditions are different, and in consequence there is no such danger as you fear. 2. If honey is plentiful, feeding will not be needed ; otherwise it is well to give a little food to stocks that have been artificially swarmed.

[2654.] *Allowing Bees to Transfer Themselves from Skeps to Frame-hives.*—I have just placed a very strong stock of bees in a skep (apparently nearly ready to swarm) above the eleven fully worked-out combs of a spare frame-hive. Two of the combs, I may add, have plenty of honey in them. 1. Please kindly inform me in how many, or rather how few days it is reasonable to expect that they will have transferred their throne rooms and nurseries to their new palace downstairs? 2. Will it be best to leave them alone till the end of the season, in the hope of then finding their upper floor (the skep) well filled with honey ; or to take it off, say, in a month's time, and give them sections or shallow-frames to do their upstairs work in?—C. C. JAMES, *Wortham Rectory, Diss, May* 21.

REPLY.—1. The time of transferring altogether depends on the prolificness of the queen and the number of bees in the hive. You must allow them to choose their own time for moving the brood-nest below. If the stock is strong, you will not have long to wait now the weather is favourable. 2. This is entirely a matter of choice for yourself ; but if sections are given, it must be when honey is coming in well, otherwise the bees will not occupy them.

[2655.] *Bees Refusing to Enter Sections.*—On Whit Monday I put a rack of sections on a very strong stock of bees in a frame-hive. The sections were all filled with worked-out comb, but had not been used for two years. I put a ring of paste to make the rack air-tight, and packed it very warm around and on top with flannel and chaff-cushions, notwithstanding which precautions the bees had not gone up on Wednesday, although the bees in two other hives similarly treated were working well in shallow-frame supers. I therefore fed from top of rack with thin honey, but with no better result. 1. What do you suggest I do further? The bees were crowding all ten frames, and every cell was crammed with honey or contained brood. They had commenced two or three queen-cells, one of which had an egg in it ; I cut the queen-cells away.

2. I should therefore like to know when I should look for and cut out any further cells the bees may build in order to prevent their swarming. 3. I should also like to have your opinion on the following flowers as honey producers, as they are very abundant around here :—Bird's-foot, trefoil, and common red perennial clover. I tried to cure my combs infested with the small wax-moth by tracing the passages of the grubs with a hot knitting-needle, and in that way finding and picking them out. It seems to answer well, but it wants repeating occasionally to provide for the eggs that will have hatched by then. Apologising for length of letter. — BUSY BEE, *Caerleon, May* 30.

REPLY.—1. There is frequently more trouble in getting bees to "take" to sections than to shallow-frames. Try running a little honey into the open cells of a section or two as "bait" to draw them up ; this often succeeds. 2. It may be necessary to look over the combs once in ten or twelve days. 3. Of the three flowers named trefoil is by far the best. We do not attach much value to the others.

[2656.] *Dealing with Foul Brood.*—Having found that foul brood is prevalent in an apiary within 600 yards of where my bees are located I would ask :—1. Is it possibly by using naphthol beta in all food given to the bees, as well as having naphthaline in hives, to keep the pest at bay, allowing that all my stocks are healthy at present time ? 2. Will the evaporation of naphthaline on the floor-boards have any effect on the flavour of the honey in supers above brood nest ?—J. H., *N.B., May* 30.

REPLY.—1. If preventive measures are taken before the disease has reached the later or *spore* stage it is not only possible, but more than probable, that the "pest" may be kept under control by the judicious and careful use of the antiseptics mentioned. On the other hand, it should be borne in mind how extremely difficult it is to destroy the *spores* of the disease. To properly understand the difference between the spore and the bacillus the article on "Spores and Bacilli, and Germicides and Antiseptics" by our Senior Editor will be found most instructive. It is in a former issue of the B.B.J., and can be had post free for 1½d. in stamps. 2. None whatever.

[2657.] *Bees near Onion Beds.*—Will you be good enough to inform me through our much appreciated little paper the B.B.J. if it is at all detrimental to a hive of bees being placed on or directly close to an onion bed—a most favourable spot for both ? If so, would you advise me to shift bees, or pull up onions ? T. H., *Bridgnorth, May* 25.

REPLY.—The bees take no harm from proximity to the "onions."

[2658.] *Disinfecting Hives.*—On examining my hives this spring, I discovered that three out of the four had foul brood in the first stages (they were apparently free last autumn). I accordingly destroyed the infected combs, washed the hives out thoroughly with boiling water and washing soda, and then painted them inside and out with a solution of Calvert's No. 5 Carbolic, one to one of water. This has now, however, left such a strong smell of carbolic on the hives, supers, &c., that I am afraid no swarm of bees would venture within a mile of them, and this in spite of thoroughly washing them again. What would you advise me to do under the circumstances ? How my colony came to have foul brood I cannot say, but I presume by robbing some infected hives in the neighbourhood.—X. Y. Z., *London, June* 3.

REPLY.—If the hives are exposed to the sun and air for a few days the smell of the carbolic acid will almost disappear. This is the only way in which we have ever dealt with hives after disinfecting.

[2659.] *Dealing with Swarms.*—I have two frame-hives and one skep. The skep I meant to transfer, but have changed my mind, and mean to keep it for a stock and accept any swarms I get from it. The two frame-hives I should prefer not to swarm, but I daresay they will. I shall do all I can in the way of giving room, air, &c, to prevent them, but if they should I mean to deal with them thus, if you approve of it :—1. In the evening (after hiving my swarms in a skep) remove three or four combs with adhering bees from the hive it issued from, and place them in a new hive, closing up with division boards, and remove to a distant stand (feed afterwards). See there are no queen-cells on frames left, and fill vacant spaces with full sheets of foundation, and return my swarm. Will this work out right ? 2. Would starters do instead of full sheets ? (They would not be wired).—M. M. M. C., *Doune, N.B.*

REPLY.—1. Your proposed plan would answer very well for the swarm ; but we cannot say much for its success with regard to the "three or four combs with adhering bees removed to a distant stand." Seeing that the whole of the flying bees "removed" would return to the parent hive, the probability is that the new hive—with its few young unflown bees left to keep the brood warm—would want a lot of nursing to work it up into a good stock. You would, of course, see that the best queen-cells are left. 2. Yes.

[2660.] *Drone Brood Cast Out after Manipulation.*—Will you kindly give me your valued opinion respecting the enclosed grub ? Is it an immature queen ? I found several thrown out of a hive in which the queen accidentally got covered with honey excepting her head and wings, whilst manipulating a short time back. I placed her at the time in the centre of the brood-nest, and owing to the strength of the colony was obliged to add a super of shallow frames at once which is now

crowded with bees, working well, and I do not wish to disturb them by manipulation, as the weather is cold. The queen has access to the shallow body, as I am trying Mr. Rymer's advice with a few of my hives. I shall be placing another super on in a day or two, and will then examine the shallow frames to see if there is brood in them. Perhaps, also, you will be good enough to allow me to ask those of your readers who may happen to be representatives to the High Movable Conference of Rechabites, which meets at Penzance in August, whether they would join in getting up a kind of conversazione on a small scale to talk over bee-matters, &c, as nearly all the counties of Great Britain and Ireland and some of the Colonies will be represented there. I have no doubt some of them may, like myself, be brethren of the bee-craft as well.—BRIDGEFIELD, *Carmarthenshire, June* 1.

REPLY.—The "grub" sent is a drone in the pupa or imago stage. With regard to your suggestion for a conversazione at Penzance, we think it would only be practicable if a sufficient number of bee-keepers are available to make it a success.

Echoes from the Hives.

Cross-in-hand Lane, Lichfield, June 1.—Being a constant reader of your BEE JOURNAL, and seeing no account as yet of white clover being in bloom, I send a line to say we have a field just coming out into bloom here (one mile out of Lichfield). The clover field referred to is grown for hay, so that, all being well, by the time the hay crop is cut we shall have all clover in the grazing field will be in full flower, thus giving the bees two chances to work on clover bloom. I am responsible for six stocks where I am employed as a gardener, and I have also two stocks of my own. At times I get a peep in at several of my neighbours' hives who own bees, but who are not quite so enthusiastic over them as myself. Some allow their stocks to perish, I am sorry to say, merely for the want of a little attention. These cases of wilful neglect are very annoying to see strong stocks ruined in this way. I have four stocks now supered and doing well, one of my own and three of my employer's. I shall have a photo of the hives taken this summer, and if they turn out all right will send you one; also an account of my bee-keeping experiences if you would care to have them.—G. H. MYTTON.

[Very pleased to get photo of your apiary. We are always glad to hear of bee-keeping gardeners.—EDS.]

Wistaston, Crewe, Cheshire, May 29.—I was wondering the other day if any swarms had come off in the country, but on getting last week's B.B.J. I see notices of a few early swarms. Well, I may say I had a big swarm on the 25th inst. about 6 lb. in weight. I have six stocks in all, and besides the swarmed hive the bees of two others are well up in the supers; the remaining three I shall super this week, all being well. I think this is very good progress for this part of the country. We do not see many "Echoes" in your columns now as formerly, but I hope to see more, as I think it gives us an idea how the bees are going on the in different parts of the country.—A. THORPE, *Local Hon. Sec. Cheshire B.K.A.*

Bee Shows to Come.

June 12 and 13 at Colchester.—Honey Show in connection with the annual Show of the Essex Agricultural Society. Liberal prizes for Honey, Beeswax, and Appliances, mostly open classes. Schedules from Mr. W. J. Sheppard, Hon. Sec. Essex B.K.A., Chingford, Essex. **Entries closed.**

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

July 24, at Broughton, Hants.—Broughton flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries close July 11.**

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford R.S.O., Carmarthen.

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. C. H. (South Devon).—*Mr. Rymer's Bee-Escape.*—Your earlier letter must have miscarried. Mr. Rymer's reply to "J. H. Wilcox" (page 226) will, no doubt, suffice for your query.

Suspected Combs.

J. E. (Clynderwen).—There is certainly foul brood in comb, but only in the incipient stage. As the only brood alive in hive was drone larvæ, it is evident the queen and stock were entirely worthless.

J. H. (Aberdeen).—Comb is diseased, but we cannot call it a bad case.

A. B. (Cumnock).—No. 1 sample is a very bad case of foul brood. No. 2 is also affected, but the disease is only just developing in piece of comb received.

A. B. C. (Wisbech).—Though only in the early stage, foul brood is rapidly spreading in comb.

J. B. H. (Worcester).—The symptoms of disease are so slight as to be invisible to any but a practised observer. It would therefore be misleading to ordinary bee-keepers to include them in "Guide Book," and would probably lead to confusion.

*** *Several Queries are unavoidably held over till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SWARMS from healthy Stocks, 1900 Queens, 12s. 6d. to 18s. THORP, Fairfield, Buxton. G 20

STRONG healthy BEES; swarms, 10s., carriage paid. D. BATEMAN, Eglwyswrw, Pembrokeshire. G 9

SWARMS of BEES.—Owing to large number of Swarms already booked, I beg to say I cannot take further orders. W. WOODLEY, Beedon, Newbury.

Prepaid Advertisements (*Continued*).

WANTED, WAX EXTRACTOR in good condition. WILLIAMS, Bee-keeper, St. Briavels, Glos. G 14

WANTED, HONEY EXTRACTOR, geared; good condition; cheap. TOWNSEND, Lydbrook, Ross. G 24

SWARMS ENGLISH BEES, 2s. 6d. per lb.; guaranteed safe arrival. DENNIS, Kempstone, Loughborough. G 17

FOR SALE, SECTIONS, GRANULATED, two and three shillings a dozen. LING, Shady Camp, Linton, Cambs. G 19

STRONG natural SWARMS, 1900 Fertile Queen, 10s. 6d., 12s. 6d.; second ditto, 8s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. G 12

WANTED, quantity SWARMS, 2s. lb.; Stocks, 8s.; Comb-Honey, August, 30s. cwt. DAWKINS, Sutton Coldfield. G 11

WANTED, SECTION-HONEY, best quality; 1901 season. Good cash price for early delivery. T. SMITH & Co., 17, Cambridge-street, London, W. G 10

FIVE-FRAME STOCKS, young Queens, 18s. 6d.; three-frame ditto, 12s. 6d.; fertile queens, 4s. each. FRANK REED, Portslade, Sussex. G 23

STRONG STOCK BEES, on ten frames, ready for supers. Price, 17s. 6d. only, box free. May swarms, strong, 10s. in new skep, 1s. 6d. extra. RUSSELL OAKLEY, Christchurch, Hants. F 94

OWING TO REMOVAL.—MUST BE SOLD, two strong STOCKS in skeps, not yet swarmed, 24s.; packed on rail. A. V. RICHARDS, High-street, Lymington. G 18

TWO very good FRAME-HIVES, painted white, only 10s. the two; to be seen Upper Norwood, S.E. Write, MACFOLL, 10, Upper Grange-road, Bermondsey. G 16

ADVERTISER open for ENGAGEMENT as Expert, or to assist in, or take charge of, large Apiary. Fully competent for clover and heather district. Fair amateur joiner. Certificate, 3rd class. North preferred. "A. B.," *Journal* Office. G 13

TO LET, for one or more months, COTTAGE, containing three bedrooms, parlour, kitchen, &c., nicely furnished. Situated in one of the loveliest Highland glens. No better place for quiet, health-giving holiday. Terms moderate. All particulars from MACDONALD, Buntait, Glenurquhart, Inverness-shire. G 21

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s. 6d.; Italians, 6s. 6d.; home-bred, from imported mothers, 5s.; others, 4s.; swarms, from 10s. 6d. Nuclei, headed by any queen at fair prices. Repeat orders are guarantee of satisfaction. Particulars, E. WOODHAM, Clavering, Newport, Essex. G 22

"W.B.C." HIVES; zinc covered roof, painted. CARAH, 10, Penlee-place, Mutley, Plymouth. F 99

SWARMS, 10s. 6d. Order now. J. J. W. ROGERS, Heath Apiary, St. Albans, Herts. F 62

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash W. CHILTON, The Apiaries, Polegate, Sussex.

SUNDRY bar-framed HIVES FOR SALE, cheap, or exchange for reliable bicycle. Address, 4, Charles-road, Birmingham. G 5

SIX SKEPS of BEES. Guaranteed healthy, with young Queens, 9s. each; three for 25s. For immediate disposal. SPEARMAN, Colesbourne, Cheltenham. F 95

YOUNG FERTILE QUEENS (1901); my Prolific Strain 3s. 6d., Virgins, 2s.; delivered. E. CARBINES, "Apiary's," Cardinham, Cornwall. F 92

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

PRIME SWARMS of superior BEES, 15s., 12s. 6d., 10s. 6d. Packed free. WALTON, Honey Cott, Weston, Leamington. F 81

GOOD natural SWARMS FOR SALE, 10s. each. H. HOLLEWORTH, Manor Farm, Wysale, Notts. F 78

Editorial, Notices, &c.

THE "ROYAL" SHOW AT CARDIFF.

In view of the forthcoming "Royal" Show at Cardiff and the local interest in the bee department of the show, we have been requested to reprint the following useful and practical article on "Bees and Hives" from a recent issue of the *Western Mail*, Cardiff, for the benefit of local would-be bee-keepers.

Our contemporary says :—

"For over twenty years Mr. Gay, of Llantwit Fardre, has been a close student of the ways and habits of bees, and, feeling that he would be able to write a good deal that was interesting about bees and bee-keeping, we put certain questions to Mr. Gay, and the following article is the result :—

'It has been suggested to me that bees will not attack persons who deal with them constantly. This is a mistaken idea. In my case, for instance, it is not that the bees know me ; it is that I know the bees. There is nothing on earth, I suppose, that a man cannot subdue if he goes the right way to work, and it is only because I know how to treat bees that I get on with them so successfully. I am not afraid of them, and they are not afraid of me. By adopting different methods at different times I can almost invariably master them, but there are times when I fail to do so, and when if I did not at once close up the hive I should be stung severely. It is only for the time, however, that they beat me, and they do so then because of my ignorance of their condition at the particular time when I go to deal with them. After leaving them for a period I return and treat them in a different way altogether. When the honey-sacs of the bees are full they are always in a good temper, and you can do almost what you like with them. You can even take a lot of them in your hand and throw them about like currants. After a spell of bad weather they are always cross, for then they have to use up a good deal of their valuable stores. The bees when they are frightened fill their honey-sacs from a number of open cells in the hive, and the sac of each bee will hold about three days' provisions. We frighten the bees by placing a cloth saturated with carbolic acid around the hive or by smoking into the entrance, and, after they have filled their honey-sacs, we can do what we like with them. You might ask—how can you avoid being stung when the weather is bad? The usual thing is to sprinkle a little syrup or half a pint of water thickened by half a pound of sugar in the hive, so that the bees can suck the liquid up, and so fill their honey-sacs. I have been stung hundreds of times, but I have not suffered any great inconvenience. In many cases, however, the sting of a bee is dangerous. Many people have died after being stung, but whether from the shock or the action of the poison which the sting contains I do not know. Now, it may seem strange to you—but I say it in all seriousness—I believe the poison injected into my system as a result of the bee stings has done me a lot of good. Before I took up bee-keeping I was in very indifferent health, but ever since my health has greatly improved. I had rheumatism one time in my knee until I could not walk about without the aid of a stick. As an experiment I one day got half-a-dozen bees out of the hive and put them in a tumbler. I then got them to sting me on the knee, and the result of those six stings was that my rheumatism has been cured, and I have not felt the slightest pain in that leg since that time, viz., five years ago. I have advised some of my friends who are suffering from rheumatism to try it, but they have been afraid. My explanation for a bee's sting having such magical health-restoring properties is this. Rheumatism is caused by uric acid, and the formic acid that the sting of the bee injects counteracts the effects of the uric acid. It is an interesting fact that once a bee has used its sting it dies. The sting of the bee is barbed at the point, and once it has been shot into anything it cannot be withdrawn, and the bee has to go away and leave it behind. Thus is a part of the bee taken away, and I have frequently seen a long thread dragged out of the abdomen of the bee and attached to the sting. If you look at a bee's sting under a powerful microscope you will find there is a small bag of poison and an injector left behind with the sting, and once the sting has been inserted you can see the pulsation of the injector forcing the poison through the tube. It will readily be understood, therefore, that the sooner a sting is extracted the better for the person stung, but some people help the injector by taking the sting between their finger and thumb, and so they squeeze the poison out of the bag. The proper way to extract a sting is to take a penknife and scratch with the point along the skin, sideways. I had often wondered whether the only use for the poison-bag, the injector, and the tube was to enable the insect to sting, but by close observation I eventually found that it was not so. After a bee has filled a cell with nectar she turns round and puts a drop of formic acid in it to preserve it. The cell is then sealed over, and the honey does not decay or ferment, and is kept sweet and pure. So that, you see, the chief use of the poison-bag is to preserve the honey, while in an emergency it is also used as a means of defence.

'The clustering of the bees and the building up of the cells is a most interesting study, but it would be impossible in the limits of a short article of this kind to go into minute details. I might, however, give a few general particulars about the social life, so to speak, of the honey bee. Bees might be roughly divided into three classes—the queen bees, the drones, and the worker bees. The drones are the

male bees, and the worker bees are really undeveloped females. The mission of the queen bee is to lay eggs so that the race of bees may be propagated; the worker bees devote their short lives to gathering in honey, and they are constantly coming and going. The male principle is represented by the drones, and once their term of service is over the workers will not tolerate them in the hive any longer, but will drive them out. The queen bee lays eggs in profusion, and some of them are deposited in chambers consisting of three cells turned into one. In these large chambers the queen-bees are born. Three days from the time the eggs are deposited in the large chambers they become grubs, and these are fed on what for a better name is called Royal jelly. They are fed on an abundance of it to make them develop rapidly. The object of the large chambers is that no impediment should be placed in the way of the development of the abdomen of the queen-bee. When forming, the queen-bee is on her head, and her abdomen grows upwards. The worker bees being hatched in the small cells have their abdominal growth curtailed. The period of incubation of a queen bee is fourteen days, and just before a queen bee is hatched she makes a noise in her cell—a sort of piping noise. The mother-bee immediately proceeds to that cell, and if left alone would rip open the side of the cell and kill the young queen. The bees in the hive, however, protect the young queen, and on the following day, if the weather is favourable, the old queen bee gets around her a swarm of adult bees, and they leave the hive to form a new colony. If the hive is a very full one as many as three swarms might take place from it, and in this wise :—After the mother bee has left, the next queen-bee—that is, the first hatched—runs around through the corridors of the hive (as the old queen bee had done), beating up followers and anxious from instinct to kill the other queen bees who are "piping" in their cells, waiting to start their careers. By some strange, natural intuition the bees that swarm seem to know how far the hive ought to be denuded. Small swarms, however, are of very little advantage to keep, unless early in the season, and it is almost better to return them to their hives. As soon as the queen bees are hatched they have to fight their own battles, and if there are several queen bees in a hive they fight for supremacy, and the final victor becomes entitled to the home. The dead bodies of those worsted in the fray are carried out of the hive and dropped in the fields. There are times when the bees will kill the queen bee—by "balling"—in order to protect her. The fertilising influence of the drones are brought to bear as soon as the queen bee takes her first flight.

'The question has been put to me, "Could bee-keeping be made to pay?" The question is one I cannot answer in a general way, as it depends so much upon the individual. It is so necessary that the bee-keeper should do the right thing at the proper time. In good seasons bee-keeping could be made to pay, but in order to make it pay the hive must be of an up-to-date, modern kind. There must be a supply of wax-foundation given to the swarm, so that the time of the bees shall not be wasted in making the wax. Bees should also be prevented from swarming, and thereby keeping the adult bees at home during the honey flow, and giving them plenty of foundation, so that they can build their combs and store honey, which they will do rapidly during the months of June and July. In spells of fine weather during these months, when the clover is in bloom, 50 lb. to 100 lb. might be taken from one hive.

'The price of the honey may be anything from 6d. to 1s. As there is no man, as far as I can see, who, taking fifty hives of bees, can average more than 50 lb. of honey per hive, it will be readily understood that the profits on bee-keeping are not great. Bee-keeping is right enough as an auxiliary, but when you come to depend upon it for a livelihood you want something to fall back upon besides honey. Bee-keepers do live on it, but a living is made by adding to it the making of appliances, the selling of swarms, &c. I have had as many as forty hives that never yielded a pound of honey in the wet season of 1888. Good farming weather is always good for bees.'"

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of May, 1901, was £7,205.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

L'Apicoltore (Italy, Rome).—"It is a curious fact that here, the more damp and malarial the district, the better the bees prosper. In the end of October, 1900, the greater part of the hives at Ponte Galera, with 627 frames, were full of brood in all stages. But there is no rose without a thorn. Just in the best time of the honey harvest the rain began. This, however, would have been nothing but for the rising of the river. The 2nd of December I received from Ponte Galera the telegram, 'Come at once, bees under water.' After a few moments' thought I ran to my nephew and asked him to mount his bicycle and hasten to the apiary, promising to follow as soon as possible by train. All the usual roads were under water; he had to take a mountain road, and arrived in two hours instead of forty minutes as hitherto. He came hardly in time;

already the last of the row of hives was under water."

"Shortly after I reached the spot with three men to assist, the flood rising most rapidly. The work proceeded until ten at night, with the water up to our waists, rising and rising higher before our eyes. We saved about 150 hives, carrying them near to the signal-house on the railway. We needed food and dry warm clothing, but the flood was rising higher, with a deep, hollow, intense sound, offering to the sight a terribly beautiful imposing spectacle. About midnight we heard a stronger, deeper, and more alarming roar of waters; we looked at one another; it must have burst the bridge and the great dam. In this case we are saved—if the water does not rise over the signal-house in two hours' time! We carried all the hives up to the signal-house and stacked them one on the other, and waited. The moon rose over the scene, reflected in the enormous mass of waters, which rose higher and higher. At two o'clock the water was 21 ft. from the signal-house; at seven it had sunk nearly double the distance, and, recovering energy, we rearranged the hives. At mid-day, under a splendid sun, we had the satisfaction to see the bees flying and gathering pollen, unconscious of the deadly peril from which they had been rescued."

L'Apiculteur (France).—How far will bees fly to gather honey? Do they take their honey by chance? Do they choose a better honey to nourish the queen? Last year I was able to make interesting observations on this subject.

I was staying in the Ile de Lerins (a small group of islands in the Mediterranean) where there were no bees, not a hive—the islands are too small—and notwithstanding the rich flora, not a bee was to be seen there all the year, except in June, when a certain shrub (name unknown to me) blooms on the south side of the island, and the bees from the continent visit it for its nectar and pollen. The nearest land is quite two miles distant. These bees, I observed, left all the other flowers untouched, and only worked the shrub in question, although they had to fly over all this wealth of sweetness to reach their goal. How can we think that bees take honey haphazard, when they fly two miles over the sea and choose exclusively the nectar of one plant among so many others seemingly more attractive? The only deduction I could find possible was that this particular honey was for the delectation of the queen bee.

The food offered to the queen is quite different to that given to the worker larvæ; it is whiter, purer, less sticky, and, above all, richer. I therefore conclude that the bees choose for this purpose a more succulent honey and more substantial pollen.

There were never many bees at a time, and they only came in the afternoon. Could it be a whim of the bees? They are so economical of time and so exclusively occupied with the good of the community! Now, the community flourishes or perishes according to the laying powers of the queen, and these are influenced by the food given her. It seems to me certain that the honey and pollen of the shrub in question must have been highly nutritive, and doubtless for this reason the bees undertook this distant and perilous flight.

La Gazette Apicole de France.—In ancient times honey was looked on as a gift from the gods. Hypocrates recommended it to his patients and attributed his own longevity to its use.

Société d'Apiculture du Tarn.—The French penal law which came in force in 1889 regards bees as wild animals. The civil law recognises them as half domestic, but offers very little protection in case of injury or poison on that account, although silkworms are placed on the list of domestic animals. Why this curious and different treatment?

Le Rucher Belge (Belgium). — *Mutual Insurance Society against Foul Brood.*—Foul brood has appeared in many parts of Belgium, and the bee-keepers whose colonies have suffered immediately send word to the society, which takes the necessary measures for dealing with it. The affected hives are sulphured and then burned. The value of those already dealt with was probably about 1,000 fr. (£40). The hives were valued previously, and the indemnity paid accordingly. Any bee-keeper suspecting foul brood has to cut out a large piece of the affected comb in the presence of two witnesses and send it to the director of the Bacteriological Institute at Liege, and the witnesses inform the president of the society. One or two experts value the hives, and the previous witnesses must be present at the destruction by fire. Nothing may escape the burning. This is then certified to the president by the witnesses, and the experts add the value of the hives at the moment of their annihilation.

We can only urge bee-keepers to keep their hives in the best possible health by maintaining order and the most scrupulous cleanliness.

The object of the society is to extinguish foul brood entirely in our country and to help those who are attacked in spite of precautions taken.

Notes from the Queensland tropical bush:—

"Very frequent in these parts are the splendidly-coloured bee-eater, Merops ornatus, long-beaked birds, the size of a thrush, but of much slighter build. Their main colour is green, but this is enlivened in a charming way by black, reddish brown, yellow and blue feathers. My guide felt hostile towards these birds as they render the keeping of bees very difficult. On the whole the bees have many more enemies in the tropics, and their honey is much more in demand than in Europe and in temperate Australia.

Besides innumerable insect-eating birds, amongst which Merops is the worst, the plentiful spiders and wasps are a great danger to the bee. Many lizards are likewise intent on their pursuit, and the plucky and rapacious ants are frequent visitors to their stores. Therefore bee-masters have to keep their eyes open, to destroy every ant-hill and wasp nest in the neighbourhood, and to kill off the birds lest they endanger the life of their nurslings."

The above is gleaned from Semen's "Australian Bush," and is interesting enough to insert in B.B.J.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

ANCIENT BEE-BOOKS.

(*Concluded.*)

"I question not, but that many will account mee too full, nay, tedious many times in this discourse; but I cannot shut a long foot into a little shooe."—"A Theatre of Politicall Flying-Insects."

[4391.] Arbitrary as the distinction between ancient and modern must ever be, there are, I think, good reasons for drawing a dividing line between Thorley and his successors. From the day when, goaded into action as it would seem by the appearance in good English garb of Hill's borrowed bee-lore, Southerne "brake the ice," and gave freedom to the copious stream of literature of which it has been my aim, following Mr. Headley, to give an accurate account. From that day to Thorley's our old masters were content to set down what they had learned in their own practice, indifferent to the progress of apicultural science outside their own country; nay, more probably, quite unaware of it. But from 1734-42 the learned Frenchman, Réaumur, was bringing out his "Memoirs on Insects," and two years later, contemporaneously with Thorley's "Melisselogia," they were published in English, thus conveying to bee-keepers the result of the researches of Swammerdam, Miraldi, and others, which Réaumur had not failed to incorporate with his own. After Thorley came Thomas Wildman; and in the light of the above it is not surprising to find his Treatise (London, 1768) founded on the Memoirs of the Royal Academy of Sciences in Paris, and comparatively modern in its general appearance.

Moreover, with Thorley disappears from the pages of English bee-men the fine old Transparent Octagon Hive, and its place is soon taken by tiered rectangular boxes with parallel fixed bars. A tendency towards movable frames can already be detected, that, fostered by the successive inventions of Huber, Munn, and Dzierzon, culminated about a century later in Langstroth's modern bar-frame hive. For the above reasons I feel justified in styling Thorley the last of our ancient bee-masters.

With the exceptions now to be mentioned, every known treatise in English during the period covered has, to the best of my belief, received attention. 1. "The Theatre of Insects" was published in 1658 by Thos. Mouffet, being translated from the Latin edition of 1634. It was the work of many writers, and is of general entomological interest, but can hardly be considered a bee-book. 2. "The Foure Bookes of Husbandry," of which the Fourth Book "entreats of bees," newely Englished and increased by Barnake George, Esqre., London, 1577, is a translation of classic fables much resembling the joint production of "T. H. Londoner" and Georgius Pictorius. I may here mention that since writing in defence of Hill [4251] I have had an opportunity of perusing G. P.'s Treatise, published in 1563, and must confess that the latter was badly treated. Hill swallowed him whole, with the exception of a fragment or two; chapter-headings and all. On the other hand some of Hill's chapters were largely increased from other sources, and three or four new chapters were added. Also, with deference to Butler, the translation was ably done. 3. Sir Jonas Moore, a man of note in the days of Charles I., wrote on the Husbandry of Bees, &c. His books were published after his death, "with large additions;" "posthumous orphlings" must be viewed with suspicion. A reprint of the Fourth Edition will be found in Cotton's "My Bee Book," 1842, a book easily obtainable, where may also be found reprints of other treatises, including Thorley's. 4. In Thorley's "Melisselogia," allusions are made to the "Country Gentleman, &c.," by R. Bradley, 1736, Professor of Botany in the University of Cambridge. He was an eccentric writer. "In March," says he, "your bees begin to breed. Lay Turpentine near the Hives, it will help them very much. . . . . You should now, August, watch your Bees, to prevent their battles, which frequently happen in this month, and can only be prevented by firing a gun or two when they are fighting in the air, and which will make them settle and separate, each army taking up a different post." This book is chiefly devoted to husbandry.

It would have been a pleasure to review the works of writers from the sister kingdoms.

But of Irish bee-masters I can tell nothing, for throughout the period considered, and for long after, Ireland remains dumb; and the first voice from beyond the Tweed is that of James Bonner (Edinburgh, 1795), a pure skeppist. Yet, as I have shown (page 176, present vol. B.B.J.), as long ago as 1673 Sir Wm. Thomson sent a pattern of a hive "used in Scotland with good success" to Gresham College; and in 1806 a French writer describes his experiences with the Scotch hive (*ruche écossaise*) of M. de la Bourdonnaie. This hive is figured in Dr. Huish's Treatise, 1815; it consists of two tiered rectangular boxes surmounted by a skep. So that it would seem as if bee-keeping on scientific principles had remained alive in the North, although, unfortunately, it occurred to no one to record it.

In no spirit of boasting, but as on a matter of historical interest, I would ask whether in any other country the grand array of English bee-masters who wrote in the seventeenth century can be matched? I do not speak of more or less belated translators from the Latin or of those who recorded the fables of still more ancient writers, but of practical bee-men who wrote in their own mother tongue for the benefit of their fellows—of such men as Southerne, the pioneer of 1593, and of the classic Butler. What book was there in any tongue equal to the "Feminine Monarchie," 1609, or even to Purchas's "Politicale Theatre of Flying-Insects," 1657, and was there any treatise so full of masterly bee-craft as that of Remnant, 1637? Was there to be found elsewhere a hive on such sound and advanced principles as that patented by Gedde in 1721? My own fairly extensive acquaintance with the works of the old French writers makes me feel certain that there was nothing to match these in France. Dr. Huish, who as a Fellow of many Continental Societies was well qualified to give an opinion, tells us in the preface to his treatise mentioned above:—"The Italians are wholly destitute of any practical Treatise." There remain in the field only Germany, and perhaps Holland, and if any country produced seventeenth-century bee-masters equal to our own, it is in Germany that they were to be found, for its bee-literature has always been extensive. Will some one capable of drawing a comparison kindly do so, and will Mr. Doory pardon me if I suggest that, failing a national champion, he should undertake the task?

Limits of space have prevented my bringing out, and now forbid my discussing, a curious feature in the works of our old bee-masters, namely, that in all of them honeydew was looked forward to as a fruitful and desirable source of the yearly harvest. No distinction was recognised between what appears to be a natural exudation from leaves and the fluid discharge from aphides, so strongly objected to by bee-keepers of the present day.

Another curious feature is that while Remnant so clearly understood the value of smoke in handling bees, and always used it, no one seems to have followed him, and up to quite modern times operations which we consider very simple were spoken of with a sort of dread.

There remains the question of foul brood. I think that all practical bee-men will agree with me that Remnant described this disease, and yet until well on into the nineteenth century there is no further mention of it to be found. A satisfactory discussion of this phenomenon being quite precluded, I must content myself with recording it.

My labour of love is now ended. I have some hopes that here and there a reader of this journal will be grateful for having had the doubts, struggles, and successes of our fathers in bee-craft for the first time gathered together and put before him. For others I have only the excuse borrowed from good Master Purchas as a heading to this last paper. Although no pains have been spared to ensure accuracy, I may have slipped here and there. Correction will be welcome. The too little-known lines which follow are from the pen of George Wither, a poet of note in his day and a fellow-student of Butler, to whom, as author of the "Feminine Monarchie," they were addressed:—

> Great God Almighty! in thy pretty bees,
> Mine Eie (as written in small letters) sees
> An Abstract of that Wisdome, Power, and Love
> Which is imprinted on the Heav'ns above
> In larger Volumes, for their Eies to see,
> That in such little prints behold not Thee.
> And in this Workmanship, oh Lord, of thine,
> I praise thy Wisdome, and thy Power divine!

SOUTH DEVON ENTHUSIAST, *June* 8.

BLENDING HONEY

AND OTHER NOTES.

[4392] I know that it is usually considered not a good policy to mix honey, but the result of some years' practice justifies us in this district, at all events, in the belief that it is a very good one indeed. We have a very large area covered with fruit trees, practically no white clover, and then a large number of limes to get our surplus from. Now it is well known that the honey from the latter source is very strong flavoured indeed, this, of course, to a very great extent it loses by being kept, but I think that if others who have the same conditions would keep the fruit-blossom honey, and when the lime surplus is taken mix the two together, they will find that it is a very good mixture indeed. I was lately asked to go and put a hive in order that had had a unique experience. It was standing on an allotment in an adjoining parish to this, and some malicious person had in the night, not only opened the hive, but had thrown the frames, &c., in a circle as far as they could throw them. Strange to relate, although it was a cold night and the frames with brood, &c., must have been exposed for some hours, no very bad effects have followed. I found

the queen and the bees carried out a few chilled larvæ in various stages. After I had put it in order, as they were very strong and I could not go over again very soon, I took what was, under the circumstances, a bold course, *i.e.*, put on the surplus-chamber. But I was justified, as on Saturday I took off three splendid shallow-frames of honey, and remainder were well filled. I also took a complete rack of shallow-frames off one of my own hives. The prospect in this district is, I think, very fair for a good harvest, but rain is much wanted to bring the limes to perfection, although they give evidence of blooming even at the present time, which is three weeks earlier than is general in this locality.—WILL HAMPTON, *Richmond, June* 10.

EARLY SECTIONS SPOILED.

NEGLECT REWARDED.

[4393.] About 6.30 this evening I was returning home from a bee-tour, and unexpectedly called in at a farmhouse where I destroyed a stock of bees last year, the said stock being affected with foul brood. The hive had been cleaned out ready for use, and a stray swarm took possession after it had been placed in position again. One of the farm hands had hurriedly taken ten frames from a new hive close by and placed them in the cleaned-out hive, and the bees in due time became established and passed through the winter safely. A rack of sections was put on early this year, and I found the bees had filled several sections well. I removed one section and presented it to the mistress of the house. Unfortunately, the hive had an inclination of quite 2 in. towards the front, and the rack had been filled with sections before placing it in position, but no dividers were used; consequently the sections had the inevitable "bulge" in the combs, which spoiled the lot. This was the most forward colony of bees I have handled for the year, and with proper management would have yielded fine section-honey for early shows with great chances of winning top prizes with them.—JOHN BROWN, *Polyphant, Launceston, June* 5.

BIRDS' NESTS IN BEE HIVES.

[4394.] Our friend, Mr. R. Brown, in B.J. of June 6 (4387, page 226), describes finding a bird's nest in a bee-hive, and I am reminded thereby that an expert who has been doing work for our Association in North Lincs. wrote me about a similar nest found on the top of the quilts in a frame-hive, and I quote the following from his letter thinking it may interest you and others. He says:—"I found a very pretty sight at Mr. M.'s apairy. On taking off the roof of a hive there was open to view a tomtit's nest containing ten eggs! I removed the quilts and nest *en masse* and removed the frames to examine the bees, after which I replaced them, and yesterday was delighted to hear that Mrs. Tomtit had laid an eleventh egg and had hatched them all. I much feared that I had caused the bird to forsake the nest, but all went on all right it seems."—R. GODSON, Hon. Sec. Lincs B.K.A. *Tothill, Alford, June* 7.

UNITING SWARMS TO PARENT HIVES.

[4395.] Some short time ago a writer in the B.B.J. advocated the placing of the swarm over the old stock, with queen excluder between, and then after three weeks uniting the two. May I ask for some of your readers' experience of this plan, and if there is not great danger of "casts" about ten days after the issue of the swarm?—JAMES HEDDING, *Cambs., June* 10.

[Perhaps some readers will oblige our correspondent as requested; meantime, if the page or date of B.B.J. referred to is sent to this office we might say a word on the subject ourselves.—EDS.]

BEE-ESCAPES.

[4396.] Would you please allow me through the columns of the B.B.J to thank Mr. Meadows for the large bee-escape which he sent me the day after my letter appeared in your pages of May 30? As bee-keepers, we owe a lot to such enterprising manufacturers as Mr. Meadows and others of the craft for the great help they afford us by the manufacture of such specialities as the one in question. We are not all like Mr. Rymer, able to turn our hands to tinsmith work. The escape is all that it claims to be, allowing both drones and workers to pass out freely and no return. Again thanking Mr. Meadows and yourself for help rendered.—JNO. H. WILCOX, *Carlisle, June* 7.

Queries and Replies.

[2661.] *Making Artificial Swarms.* — 1. Will you kindly tell me whether in making an artificial swarm from a strong stock in frame-hive, the following plan would be successful:—(a) Early in the morning of a fine day place a fresh hive, with built-out combs containing honey, on the stand of the hive from which I wish to make swarm; (b) Remove, say two frames of brood from the parent hive (I could also spare brood from another hive), place in the new hive and leave it to receive the flying bees, and let the bees raise a queen for themselves. I want to know this, because not being experienced in finding queens, I might fail in trying to make a

swarm in the way described in "Guide Book." The reason for artificial swarming is that my bees, if left to themselves, invariably swarm into my neighbours' gardens. The hive in question now has on a rack of sections three-parts sealed. Should I put supers on both hives if I succeed in the swarming? 2. I have another stock which has worked splendidly up to three days ago. It has on two racks of sections, the top one three-parts completed, the second given them about a week ago, as they appeared likely to swarm. Four or five days later the energy of the bees suddenly left them, and now little or no work seems to be going on. I do not think it is possible they have swarmed without my knowledge, nor can I think it is a temporary cessation in the honey flow, as my other hive is as busy as possible. Can you suggest any other reason and what would you advise me to do? I have not examined the hive as I dislike disturbing them unless necessary, except to ascertain that they are still up in the top super, though it is not so full of bees as usual.—B. I. D., *Acton, W., June* 6.

REPLY.—1. Reference to query 2659 on page 228 last week will show that—in principle at least—the reply there given will apply to your own case. In other words, the risk would be not to the swarm, but the stock denuded of the flying bees, which would nearly all return to the new hive on the old stand. 2. The only suggestion we can offer is a possible loss of queen through some injury during the late manipulation of the hive when supering.

[2662.] *Foul Brood in Northumberland.*—1. Will you kindly inform the various members of the N. & D. B.K.A., from whose hives I have cut the enclosed samples of comb marked Nos. 1, 2, 3, 4, and 5, all of which are, I think, affected with foul brood. Samples 1 and 2 were taken from hives which have been empty for a month past or more, both having had their contents robbed out, and the respective owners await your decision in B.B.J. before being convinced. The combs from Nos. 3, 4, and 5 were taken from hives and burnt, after having shaken off bees (about 1½ quarts), which I gave instructions to shake into hive (clean and fresh) after forty-eight hours' confinement, and feed on medicated syrup. As I had to leave the same day for home (sixty miles off) I hope my instructions are fully followed out as laid down in "Bee-keepers' Guide Book." 2. *Re* Microscope for detecting *bacillus alvei* would you kindly recommend a moderate-priced one?—JAS. WADDELL, *Hon. Secretary, N. & D. B.K.A.*

P.S.—Since writing above I have come across another "case" and send a piece of comb from it. It is from the same apiary as sample first sent (marked No. 1) This hive was "robbed" by the others. I also send the queen-bee from the hive in question. Can you tell her age?—J. W.

REPLY.—1. Of the five samples sent, No. 1 has not a capped cell or a trace of brood, foul or otherwise, in comb. The other four samples are all badly diseased. Nos. 1, 3, and 5 have evidently been affected for a long time past. No. 4 is not of such old standing, but the disease is plainly there. 2. No less powerful objective than a $\frac{1}{12}$th will be of any service in detecting the bacillus of foul brood. Any optician will tell you the cost of a glass of that power. With regard to your "postscript," we cannot find any trace of disease in the remains of dead larvæ in cells. It is, therefore, not foul brood that has caused death. The queen (a full-sized second-cross Ligurian hybrid) does not bear the appearance of age, but is plainly a drone-breeder, and, of course, useless.

[2663.] *Uniting Bees.*—I read in the May number of your monthly, the *Record*, a description of several plans of "uniting bees" by your contributor, "D. M. M.," Banff. I thought of trying one of them—the one in which uniting is done by placing one hive over another, with a sheet of brown paper between with a one-bee hole-space in it. I suppose it could be done by placing a straw skep over a bar-frame hive. After the straw skep has swarmed, I should prefer to go into winter quarters without it, so I thought it would be a good way of strengthening another hive I should like to send to the heather. I would therefore like to ask:—1. Should the entrance to the skep be closed entirely, and the bees would need to go down by the hole into the other hive? 2. How long after placing on top would I be safe to lift off skep and put on super instead? 3. I expect a swarm any day from skep, as they are crowding out on board. If I placed it on frame-hive immediately after swarm issuing, would it prevent another swarm, or would it be better after all swarming is over? If above queries are too late for answer in next week's JOURNAL, you might kindly answer at your earliest convenience. I may add that I had a fine swarm from frame-hive referred to on Friday last.—M. M. M. C., *Bruehead, Doune, N.B., June* 8.

REPLY.—1. Yes, the only exit for bees in skep must be through the lower hive. 2. The skep should remain until all brood in its combs has hatched out, and the bees have transferred to the brood-nest below. The time, of course, depends upon the queens ceasing to deposit eggs in skep. 3. It would cause much confusion unless all queen-cells were cut out from skep prior to putting it on the frame-hive.

[2664.] *Bees Deserting Frame-hive in Spring.*—I left home in February for a two-months' stay, leaving my one hive fairly strong in bees, and with plenty of food. I was away a little longer than I expected—returning at the beginning of May—when I found my hive entirely deserted. There was plenty of candy and two frames of sealed honey left. The bees had apparently not died, for there were only a

few dead bees about the hive, but deserted completely. There were no signs of mice or of disease. As far as I knew, they were headed by a young queen of last season. The only reason I can think of for their desertion is that I left them with stout and warm quilts on and a chaff-box, and also cork dust round the sides of the hive, to protect them against the cold of the spring. Do you think that the few rather hot days we had in April would raise the hive to such a temperature that the bees would desert? Or do you think the queen could have died and the bees swarmed to join another hive? Although they certainly were well and strong at the end of February, I am told hardly any came out to enjoy the crocus pollen, as usual. That hardly looks as if the heat of the hive had driven them away. I should be so glad if you would give me your opinion on my misfortune. 2. Would you kindly tell me if I might use the combs for another hive? They are rather old, but I am sure there is no foul brood in them, and if I buy another swarm they will waste all the honey season building comb. 3. Also, is it safe for me to use the quilts again? or should they be boiled before using? They are of strong clean felt, and the only thing I am doubtful about is that there are slight signs of wax-moth, and I fear there may be eggs in the quilts. 4. Lastly, would you tell me how best to utilise the two or three combs of sealed honey? It is not enough to be worth extracting, as I have no more. If it is safe to give the built out combs to a new swarm, would it be wise to put in those also with the sealed honey? or if not, how could I best give it to the bees?—"A Beginner," *N. Wales.*

Reply.—1. No, the high temperature in April would not in the least tend to make the bees desert their hive. It is much more probable that they were queenless and left the hive *en bloc* to join a neighbouring colony. 2. Yes, if they are free from disease. 3 and 4. The same caution applies to quilts, combs, and honey; all may be used again if the hive and bees are healthy.

[2665.] *Disinfection of Hives.*—Thanking you for kindly replying to my query on page 228 of your instructive journal, may I further trespass upon your goodness to inquire (1) if an application of pure "Condy's Fluid" would be an antiseptic of sufficient power to destroy the bacillus of foul brood in its spore condition? My reason for asking being that I find the odour from the carbolic acid very difficult to remove from the woodwork of the hives treated with a solution of the same. (2) Does the bee obtain honey in any quantity from the acacia trees which I now see in bloom in large quantities.—X. Y. Z., *London, June* 10.

Reply.—1. "Condy's Fluid" would have no effect whatever on the spores of foul brood. If you desire to rid the inside of hive from spores, scorching with a painter's spirit lamp, or smearing with paraffin and setting it alight, is the best remedy. 2. The bloom of acacia is not accounted of any appreciable value as bee-forage.

[2666.] *Giving Bees Room in June.*—1. I have two hives of bees, each with six frames in, well covered with bees, and brood in all the combs; should I place section-supers on, or should I put more frames in the brood-chamber? 2. If I must put more frames in, what number must be in before I put on supers?—C. T., *Warwickshire, June* 10.

Reply.—The additional frames to complete the full number needed for brood-nest (ten or eleven) should have been given in May if bees were strong. It will now retard the bees somewhat in taking possession of surplus-chambers, but the frames must be given before supers are put on.

[2667.] *A False Alarm of Foul Brood.*—Will you please let me know if the three pieces of comb contain foul brood, or is it "chilled" brood? I had an expert over on Saturday, and he could not say for certain. His opinion was that the brood was "chilled" only. I examined the combs thoroughly on May 6. As they are in an old hive, and do not fit well, the bottom-bars of the frames rest on the floor-board; there were also wax-moth grubs on nearly every frame. The day was very hot, with bright sun, and there was a rather chilly east wind, followed by a frosty night. I lifted out every frame in the hive, and put them into a clean, disinfected one. It took me from ten to fifteen minutes to transfer the frames, so some of the unsealed brood might have got chilled in the process.

I have kept bees, with uniform success, for fully eleven years past, and have never had foul brood among them at all. The hive referred to is one I bought at a place sixteen miles away. I got four others along with it, and they are all doing well. If it is foul brood, should you advise destroying the lot, to be on the safe side? The bees in one of the purchased stocks now cover fifteen frames, and are working well on ten shallow frames in a surplus-chamber. If the hive is diseased please send me a postcard; if not, I shall hope to see your answer in the Bee Journal.—H. Pears, *Lincoln, June* 10.

Reply.—A careful examination shows that the comb is not affected with foul brood, and judging by the number of larvæ in all three pieces of comb, the queen is a prolific one; we should, therefore, just leave the bees to remove the chilled brood in their own way without further disturbing the colony.

Echoes from the Hives.

"*The Woodbines*," *St. Brelades, Jersey, C.I., June* 3.—With fifteen hours of glorious sunshine following a couple of days' mild rain, and this preceded by three weeks of mild and

genial weather, it is no wonder to see the bees hard at work. During the time specified the hawthorn has burst into bloom, and both orchard trees and bush-fruit are now setting abundantly. The recent show of magnificent blooms enabled the bees to bring in large quantities of pollen and honey-sacs full of nectar, which mine are still continuing to do, with every prospect of an abundant supply. Most of my stocks are now sealing over solid slabs of honey, which I have no difficulty in clearing out at 1s. per lb. out here. That the present glorious weather may continue is the wish of every lover of the bees.—WILLIAM WALKER KAY.

PRESS-CUTTINGS ABOUT BEES.

FACTS ABOUT HONEY.

Starch and sugar, when eaten, undergo a digestive change before they are assimilated. In honey, this change has been made to a considerable extent by the bees. It is partly digested, easy of assimilation, and concentrated, and furnishes the same element of nutrition as sugar and starch—imparts warmth and energy. As a medicine, honey has great value and many uses. It is excellent in most lung and throat affections, and is often used with great benefit in place of cod-liver oil. Occasionally there is a person with whom it does not agree, but most people can learn to use it with beneficial results. Children who have more natural appetites generally prefer it to butter. Honey is a laxative and sedative, and in diseases of the bladder and kidneys it is an excellent remedy. It has much the same effect as wine or stimulants without their injurious effects, and is unequalled in mead and harvest drinks. As an external application, it is irritating when clear, and soothing when diluted. In many places it is much appreciated as a remedy for croup and colds. In preserving fruit, the formic acid it contains makes a better preservative than sugar or syrup, and it is also used in cooking and confectionery.—*The Family Doctor.*

BIRDS HATCHED IN A BEE-HIVE.

One often hears of birds building their nests in old hats, pipes, lanterns, and such odd places, but many will, perhaps, be surprised somewhat to find that birds have taken to building their nests and rearing their young in a bee-hive. Such, however, is the case, for on Sunday Mr. F. W. Hartwright, Assistant-Overseer of Fernhurst, was walking in his garden with a friend when he opened a bar-frame bee-hive, from which the ventilating hole cones had been removed, and, to their surprise, they found inside a black-headed tit's nest containing six young birds and one egg, carefully placed upon the top of the quilts.—*Sussex Daily News.*

Bee Shows to Come.

June 12 and 13 at Colchester.—Honey Show in connection with the annual Show of the Essex Agricultural Society. Liberal prizes for Honey, Bees-wax, and Appliances, mostly open classes. Schedules from Mr. W. J. Sheppard, Hon. Sec. Essex B.K.A., Chingford, Essex. **Entries closed.**

June 25 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 8 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries close June 19.**

July 24, at Broughton, Hants.—Broughton flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries closed.**

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford R.S.O., Carmarthen.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. H. SMITH (Lincoln).—*Larvæ Dying in Combs.*—We cannot venture any definite opinion with regard to foul brood from description only. A small sample of comb must be sent for us to judge by. The few particulars given lead us to suspect that trouble arises from overdosing with some disinfectant. Have you been using such?

J. B. (Yorks).—*Insect Nomenclature*—1. Bees sent are the ordinary hive bee, the dark shiny appearance of the body being characteristic of the confirmed "robber" bee. There will be less trouble in keeping the marauders at bay now that plenty of natural honey is obtainable in the fields; but it will be well to continue the precautions taken to baffle the marauders. 2. The small insects commonly known as the "sand bee" are of our gardens. They belong to the *Andrena* species, and burrow holes in sandy places in the earth wherein to rear their young. They do no harm in the apiary.

Suspected Combs.

SPECIAL NOTICE to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put *outside* the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F.B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, BEE JOURNAL," not "Manager."

BEE-KEEPER (Carmarthen).—There has been no brood reared in comb sent for some months past, all remains of the dead larvæ which once occupied the sealed cells having dried up and disappeared. There is, however, enough to indicate the presence of foul brood spores in what remains.

J. ADAMS (Strabane).—We have examined the second sample of comb (badly crushed up in packing) with the same result as in former case, viz., no foul brood in cells. Therefore, whatever may be causing the bees to die off, it is not *Bacillus alvei*. We advise you to examine the combs and endeavour to find—from inspection—some cause for the bees dying, just as we ourselves would do if near you.

J. P. (Truro).—Comb badly diseased.

BEES (Belfast).—Foul brood is just developing in comb.

X. Y. Z. (Essex).—There is foul brood in comb, but it seems a mild attack, and has only reached the incipient stage.

P. C. (Grantown).—Though appearances were somewhat suspicious, careful microscopical examination shows no foul brood.

H. H. B. (Isle of Wight).—Regret to say hive from which comb was cut is badly affected with foul brood.

T. A. W. (Abergavenny) and W. S. (Doncaster).—In both cases the comb is plainly diseased, a few cells being full of the brown ropy mass that is unmistakable.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, a quantity of New EXTRACTED HONEY. R. WHITTING, Manea, Cambs. G 34

WANTED, Two (or one) Single BEDROOMS, in or near Cardiff, during "Royal" Show. HERROD, Horticultural College, Swanley, Kent.

STRAW SKEPS, cane bound, 18s. dozen; 9s. 6d. ½ doz. ALFRED HARDING, Straw-skep Maker, Bellingdon, Chesham, Bucks. G 29

35TH SEASON.—SWARMS, price 10s. 6d., 12s. 6d., 15s., 17s. 6d. PRYOR, Breechwood Green Apiary, Welwyn, Herts. G 26

GIVING UP.—Ten Stocks of Bees, Hives, Shallow-frames, Sections, Crates, &c. RECTORY, Bowers, Pitsea. G 25

FOR SALE, Bar-frame hives, Skeps, Sections, Comb foundations, &c., chiefly new. Mrs. KIME, Mareham-le-Fen, Boston. F 31

ORPINGTON EGGS, Black and Buff from handsome fowls (Cook and Partington strain), 2s. 9d. dozen. E. MIDDLEMAS, Stamford, Alnwick. G 30

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

SPLENDID NEW ENGLISH HONEY, 6½d. per lb. Also SWARMS, 10s. each, packed free. Cash or deposit. ALBERT COE, Apiary Hall, Ridgwell, Halstead, Essex. G 32

EXPERIENCED BEE-MASTER seeks APPOINTMENT (temporary or permanent). Good hive, foundation, candy maker. Excellent references. Address, "P." *Bee Journal*. G 27

OVERSTOCKED.—1901 Fertile crossed CARNIOLAN QUEENS, 3s. 6d. each; 1900 crossed Italians, 3s. 6d.; a few Blacks, 2s. 6d. Pure 1901 Imported fertile CARNOLIANS and ITALIANS, 6s. 6d. each. CYPRIANS, 7s. 6d. All safe arrival. Post free. SPEARMAN, Colesbourne, Cheltenham.

SWARMS of BEES.—Owing to large number of Swarms already booked, I beg to say I cannot take further orders. W. WOODLEY, Beedon, Newbury.

SWARMS ENGLISH BEES, 2s. 6d. per lb.; guaranteed safe arrival. DENNIS, Kempstone, Loughborough. G 17

FOR SALE, SECTIONS, GRANULATED, two and three shillings a dozen. LING, Shady Camp, Linton, Cambs. G 19

STRONG natural SWARMS, 1900 Fertile Queen, 10s. 6d., 12s. 6d.; second ditto, 8s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. G 12

WANTED, SECTION-HONEY, best quality; 1901 season. Good cash price for early delivery. T. SMITH & Co., 17, Cambridge-street, London, W. G 10

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

NAPHTHOL BETA SOLUTION, made according to directions in Guide Book, 9d. and 1s. 3d. per bottle. GUTHRIE BROS., Alloway, Ayr. F 22

Editorial, Notices, &c.

ESSEX BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW.

The Essex B.K.A. held their annual exhibition of honey and appliances in connection with the county show of the Essex Agricultural Society at Lexden Park, Colchester, on June 12 and 13, and it was the most successful that has been held in the county for many years past. Owing to the liberality of the Agricultural Society and the local show committee, who contributed altogether £30 towards the expenses, a good prize list had been arranged. One hundred and one entries were made in twenty-one classes, of which, owing to the favourable season, only seven were not staged. In the classes for 1901 honey the competition was very keen, and some splendid sections, mostly sainfoin, were shown, and those obtaining the silver medal, in addition to the first prize, were in every way worthy of the award. In the class for appliances Messrs. Jas. Lee & Son were the only exhibitors, and only four entries were made in the class for the most complete and inexpensive frame-hive. Two observatory hives were shown, and proved, as they always do, a great source of attraction to the visitors. In the inventions class Mr. E. H. Taylor exhibited an incubator for hatching queens, which excited much attention. It is made similar to an ordinary incubator, but so arranged that the temperature can be kept at about 80 deg. The queen-cells are placed in separate cages, which fit into shallow-frames and hang in the drawer of the incubator, and can thus be easily examined.

Mr. Bunting, the Association's local adviser for the Colchester District, kindly provided ferns in pots and flowering plants for decorating the honey tent, and this added greatly to the appearance of the exhibits, and was much admired. At intervals during the two days Mr. Withycombe, the expert of the Association, gave demonstrations and lectures in the bee tent. Mr. Lewis Belsham was the judge, and made the following awards :—

Collection of Hives and Appliances.—1st, J. Lee & Son, Silver-street, High Holborn, W.C.

Most Complete and Inexpensive Frame-Hive.—1st, J. Lee & Son : 2nd, E. H. Taylor, Welwyn, Herts.

Observatory Hive, with Bees and Queen.—1st, W. Loveday, Hatfield Heath, Harlow ; 2nd, J. Lee & Son.

Six 1-lb. Sections.—1st and silver medal of B.B.K.A., C. Lodge, High Easter ; 2nd, C. Morris, Stanford-le-Hope ; 3rd, C. M. Collins, Tillingham ; r., A. Long, Harlow.

Three 1-lb. Sections.—1st, C. Lodge ; 2nd, C. Morris ; 3rd, A. Bagley, Brightlingsea ; r., W. Loveday.

Six 1-lb. Sections (gathered in any year).—1st, W. Woodley, Newbury ; 2nd, W. Loveday ; 3rd, A. Reeve, Woodham Mortimer.

Three 1-lb. Sections.—1st, W. Woodley ; 2nd, W. Loveday.

Single 1-lb. Section (gathered within a radius of five miles of Colchester Castle).—1st, W. Woodley ; 2nd, A. Long ; 3rd, C. Morris ; r, T. I. Weston, Wickham Bishops.

One Shallow Frame of 1901 Comb Honey for Extracting.—1st, C. Lodge ; 2nd, W. Loveday ; 3rd, A. Long.

Six 1-lb. Jars Extracted Honey.—1st and bronze medal of B.B.K.A., W. Loveday ; 2nd, E. Moss, South Ockendon ; 3rd, C. A. Atchley, Willsbridge, Bristol ; r., G. Heckford, Felsted.

Three 1-lb. Jars Extracted Honey.—1st, W. Loveday ; 2nd, Mrs. Morris, Cranham ; 3rd, E. Moss ; r, F. J. Carter, Galleywood.

Six 1-lb. Jars Extracted Honey (gathered in 1900 or any previous year).—1st, W. Loveday ; 2nd, A. T. Pratt, Walton.

Twelve 1-lb. Jars Granulated Honey.—1st and B.B.K.A. certificate, W. Loveday ; 2nd, F. J. Carter.

One 1-lb. Jar Extracted Honey, of any year.—1st, W. Loveday ; 2nd, C. A. Atchley ; 3rd, A. Long.

Best and Most Attractive Display of Honey, in any form.—1st, W. Loveday.

Beeswax, 2 or 3 lb.—1st, W. Woodley ; 2nd, W. Loveday ; 3rd, J. Berry, Llanrwst ; r., F. J. Carter.

Mead.—1st, T. I. Weston ; 2nd, A. Reeve.

Useful Invention Connected with Bee-keeping, Introduced since 1898.—1st, E. H. Taylor, Welwyn, Herts.

Unpainted Hive, made by a Member of the Essex B.K.A., not being a Professional Carpenter.—1st, C. Lodge.—W. J. SHEPPARD, *Hon. Sec., Essex B.K.A.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4397.] The weather is still a current topic, especially to dwellers and workers in the country and winning a livelihood from "the land." Farmers and bee-keepers are perhaps more interested in weather conditions, and the consequent influence on the crops, than any

other members of the community. The week ending June 8 raised high one's hopes for a good season; then came a change, and the next seven days were dull, cold, and windy, with continually threatening clouds, but no rain. The last two days (16th and 17th) have been a recurrence of the previous week, with barometer at "fair and rising." Thus the bees are doing practically nothing; yet the clicking of the mowing-machines is constant every day, early and late, one team of horses resting while another team is working. The old style of mowing with the scythe took longer than the machines do now, and that, of course, meant an extended forage for the bees.

Swarming.—From what I hear the swarming season is not satisfactory. One skeppist who lives about a mile and a-half from me has not had a single swarm from an apiary of several hives. Others have had a few swarms, but these have been very troublesome, some flying straight away without "settling," others returning to the hives from which they issued. I have myself lost two or three swarms at my out-apiary and one at our home-apiary. The last-named one was lost after being in its travelling-box ready to send away. It was placed where the swarm settled in order to "gather in" the few flying bees when, without warning, the whole lot decamped. As these annoyances crop-up in fairly practical hands no wonder they are of frequent occurrence in the hands of novices in bee-keeping. To the dealer, however, there is not only the loss of the swarm but also the fact that customers are waiting impatiently for the very swarms which have taken flight to homes beyond our ken.

In a recent "Note" I mentioned the utility of an old bass-broom for cleaning the perforated diaphragm of the smoker. I now add another useful item for those who have trouble in getting their smoker-fuel to keep alight. Most of us have experienced the failure of our "smoker" to belch forth a volume of smoke when urgently needed, and have endured much pain in consequence. Now if those who suffer in this way will dissolve 1 oz. of saltpetre in 1 quart of water and immerse the smoker-fuel in this solution, then ring same out and dry the rag, brown paper, or whatever material is used, it will burn continuously until consumed. Some one may perhaps say, "Pooh! why not tell us of something new?" I reply, "Whether new or not it may be useful to the recruits in our ranks."

New-Sized Sections.—I have invested in a few of these, and have placed a rack containing twenty-four of them in a strong colony under a rack already well forward, and I find the result is that hives that just accommodate two racks of the ordinary sections will not take the same number of racks without alteration; consequently, to use these new-sized sections we must alter our racks, buy new dividers, and make "ekes" for our hives if they are to take the same number as before. Possibly some of the new and improved hives may have an extra couple of inches of surplus room at the top to spare, and in this case no alteration is required; otherwise the change mentioned will be needed. There is also, in my opinion, another fault in the new sections, viz., four bee-ways. These latter sections I tried side by side with the "two-bee-way" by the thousand, and I could discover no advantage in the filling and sealing of them by the bees. But the two-bee-way have a decided advantage in the matter of handling and glazing, while the two sides are good solid rests on which to place and fix the glass. Then, after glazing, the customer and dealer can handle without cracking the glass by pressure, which often happens with the glazed section with the projecting corners.

The Value of our Honey-crop.—Bee-keepers are so scattered and isolated that I fear it is useless to expect any consensus of opinion as to the honey-crop this year. If B.J. readers generally would write our editor a postcard stating from week to week the results so far, he would be able to summarise the reports and localise the productive districts, and thus know if the crop was an average one or otherwise. This information would, I think, enable those of us who have produce for sale to estimate its probable value.—W. Woodley, *Beedon, Newbury.*

THE "RYMER" HONEY-PRESS.

[4398.] I was rather surprised to see in your issue of May 30 under the heading of "Novelties for 1901" (page 218), that Mr. Rymer is mentioned by the manufacturer as the inventor of the "'Rymer' Honey-Press," a mention which sounds almost like a fairy tale to Pickering people. Knowing Mr. Rymer as we do, we can hardly believe that he will care to wear a "dead man's shoes," and in order to make the matter clear I may be allowed to say the honey-press now known as the "Rymer" was invented by the late Mr. Tennyson Gray, a moulder at the Whelton Foundry, near Pickering, over thirty years ago. Mr. Gray only made three presses, all of which are in the possession of Pickering people. No effort was made to put it on the market for over twenty years, when Mr. Rymer and a friend of his borrowed one of these original presses from its owner (Mr. Kitching, of Pickering), and, after securing purchasers for half a dozen, got them made, the only alteration being that the top-bar was made to go over the side instead of over the end. The press, however, still remained nameless until three years ago, when it was placed on the market by the proprietor of the Pickering Bee-Farm, and was then named by Mr. Rymer himself. I therefore think that this press must be the one now called the "Rymer." I am very pleased to see that Mr. Meadows is placing a similar press on the

market, as no one has had to suffer more from the difficulty in procuring those presses than myself. — THOMAS HOOD, *White Heather Apiary, Pickering, June* 11.

[On receipt of the above communication we considered it desirable, in the interests of all concerned, to publish whatever Mr. Rymer might wish to say on the subject along with Mr. Hood's letter, and with this in view sent a copy to Mr. Rymer, whose reply appears below.—EDS.]

Referring to your letter of 13th inst., containing copy of Mr. Hood's letter *re* "Honey-Press," I am rather pleased than otherwise to have an opportunity of giving some particulars about this press, because the information afforded by Mr. Hood's letter is both interesting and new to me. As a matter of fact, I have made many inquiries, but have hitherto quite failed in obtaining the information now afforded, although five years have passed since I brought the press out. It thus becomes necessary that I should give you some particulars regarding the way the press that bears my name came into existence in order to clear away any doubt of my bona fides that may be created by Mr. Hood's letter. Let me then tell such of your readers as care to know, that six years ago I made a strong frame of wire-netting to enclose my "letter-copying press," such as is supplied to all railway offices (made by Durmison & Sons, Newcastle), and in this form I used the press to get my heather honey for that season. This trial clearly proved to me that a machine made like the top part of my "copying press" and enclosed in a strong metal case, grated all round and on the bottom, would form a most powerful and efficient machine for my purpose, and in order to carry out the idea I arranged with the late Mr. Hutton Whitby to make me a press on the principle I had in mind before another season came round.

This all happened before I was even aware of the existence of the old press referred to by Mr. Hood. Five years ago Mr. Kitching and I were discussing the subject of pressing of heather honey, and Mr. H., being an old bee-man of twenty years' experience, was, like myself, deeply interested in the matter. In the course of our talk I showed him the "copying press" in the office which I had used for the purpose the year before, and not only told him that I was going to have a press made, but who had undertaken to try and make it. Mr. Kitching then said, "Why, I have the very press you require, and will send you it up." This he did, and sure enough this press contained the very principle on which I had decided to have one constructed; it was, however, not only much too small for my purpose, but the top of the press was not as I wanted it. I have no hesitation at all in saying that I was not the inventor of this old press to which Mr. Hood refers, and, as already said, I never knew its history till now. I also placed this old press in the hands of Mr. Hutton as, in some measure, a guide to go by, but giving him my own dimensions and instructions regarding my own alterations, and stating that the cross-bar and top of the new machine was to be an exact counterpart of my "copying press." Thus the old press in question did play some part in getting out the new one. It is, however, positively certain that without my ever having seen or heard of the press Mr. Hood mentions, the one bearing my name would have been brought out all the same. Most people know the adage about there being "nothing new under the sun," and in bee-appliances, along with other machinery of the present day, the same idea may strike different people at different times; and I certainly have no desire to *pose* as an "inventor" to the detriment of other good bee-men who have now passed from among us. It merely shows that, thirty years ago, others possessed similar ideas to myself in pressing heather honey. My only desire has been to see the press manufactured at a price that all my bee-brethren might share its advantages, and this I am quite satisfied Mr. Meadows has accomplished.

I trust you will kindly allow me to mention above facts in the B.B.J. along with Mr. Hood's letter in order that your readers may clearly understand my position in the matter. I desire this because—it may be unintentionally—Mr. Hood seems to convey the impression that I have been doing something to claim merit which is due to another. At the same time he certainly knew nothing of my intentions, but only saw the press when it was completed.—J. RYMER, *Levisham, Pickering, June* 14.

THE SEASON IN DORSET.

DISQUALIFIED EXHIBITS.

[4399.] It is some time since I penned a line to the B.B.J. on bee matters in our part, so I send a few notes to let you know how we stand for the season now begun. Well, my bees have been doing grand work; hives "boiling over" with bees, as they say. No swarms so far, but plenty of honey coming in, and I have two supers on nearly all my hives. As ours is a very early district I entered in two classes at the Southern Counties Agricultural Exhibition at Weymouth, and was much disappointed, as you may guess, when, on paying a visit to the honey department, I saw "1st prize" marked on a sample of granulated honey, and 2nd prize on some inferior stuff, and on my exhibit the words, "Too late for competition." I sent away my honey on Monday morning by "Pass. train," and from what I could gather from the secretary it arrived same day. The time (according to schedule) for exhibits to be there was on Tuesday morning. It was delivered to the "Hants Bee-keepers' Association" instead of at the show-tent, and I suppose I have to

thank the officials of the said Association for delaying the staging of it until two hours after judging was over. There can be no doubt any competent judge would have awarded me the 1st prize, as it was new honey, clear, and of as good colour as anyone would wish to see. It was, in fact, to my mind, the best honey ever I exhibited since I have kept bees, and I generally sweep the show-bench at our local bee-shows. Of comb-honey there was none staged but mine, but both my exhibits were marked "Too late for competition." I have sent in claim to railway company, but do not know if I shall succeed in getting any compensation. Anyway, I shall try for it. I wonder what our friends Woodley and Loveday think about it? I should like to see a few comments from them as experienced exhibitors on the subject. I am perhaps intruding too much on your space in this personal matter, but I think this sort of thing cannot have too much attention paid to it by the committees of shows. I may say the honey was plainly addressed to the secretary of the show, with class and number added.—WM. J. NORMAN, *West Bridport*, *June* 17.

WATERCRESS HONEY.

[4400.] I thought it might interest some of your readers to know that I get a great quantity of what I consider very good quality honey from watercress bloom. The bees store very fast from this source and will fill a crate of shallow-frames in a few days.

I may mention we are large growers of watercress plants, having many acres of them, and as they bloom just after the sainfoin and trifolium is cut, it keeps the bees storing fast until the limes bloom. I may also mention that we have a large late-flowering lime tree which blooms the end of July or beginning of August. Later on I will send you a sample of watercress honey, as I should like to have your opinion of it. I take the B.B. JOURNAL and *Record* in regularly, and find great help from perusal of their respective pages.—W. A. D. PERN, *Ernestholme Nursery, near Basingstoke*, *June* 15.

CLAIMS FOR DAMAGES BY BEES.

INSURING BEE-KEEPERS.

[4401.] Having, a day or two ago, some business to transact with the Law Accident Insurance Society, Limited, and bearing in mind the recent correspondence in your columns, in which various readers expressed themselves as desirous to insure against liability for damages caused by bees, I took the opportunity of inquiring if such a system of insurance would be feasible. The above-named company, which by name, at least, is doubtless known to most of your readers, is, I understand, willing to formulate such a scheme of insurance, and, as a preliminary, has asked me to state what risks it is desired to cover? Whilst the damages to ensure against would no doubt be all those for which a bee-keeper could be held legally liable, I imagine that the chief, if not the only, risks would be those in connection with stings inflicted upon human beings, or live stock outside the apiary insured. The "Policy" might, no doubt, also be framed to include the insurer's own belongings. At any rate, I should be glad if your readers would state their views and (with your permission) freely discuss the subject in your columns, in order that I may supply the company with the information desired. I trust that the result may be a form of insurance acceptable and advantageous to all bee-keepers who desire to insure.—GERARD JENSEN, *South Norwood, S.E.*, *June* 15.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In our good friend Mr. Paterson—whose apiary forms our bee-garden picture this week—we have another bee-man who not only has been a bee-keeper from early boyhood, but one who, in the love of his home and his bees, finds his greatest happiness and immunity from the "troubles of this world." It comes, too, as a corrective of our English ideas of gradually lowering prices for honey when we find our Scotch friends still able to realise such prices as 1s. 6d. per lb. for comb honey and 1s. for extracted. This is especially true, bearing in mind the impression—which generally prevails in England—that our Scotch friends are, as a rule, less disposed to be extravagant in their "spendings" on what some call luxuries, such as honey. Anyway, the fact is there, and it is an encouraging one for those whose bees are located "ayont the Tweed."

For the rest, we leave Mr. Paterson to give his own interesting experiences as follows:—

"In sending you a few particulars with regard to my bee-experiences, I shall have to go back a good many years to the home of my grandfather at Balincrief, in the county of Haddington, for it was from him I got my early training among the bees. I well remember the time when as a young boy I accompanied him with his bee-hives to the heather hills some miles above Haddington. We packed the hives on a farmer's ordinary cart, lent by Mr. George Reid, farmer, of Balincrief. But, Mr. Editor, how changed are now the methods of bee-management to those of the old days, when I look back and remember how ruthlessly the bees were then destroyed in the brimstone pit after their labours at the heather were ended for the year; all destroyed except just the few kept for carrying on the work in the following spring. Thanks, however, to the BRITISH BEE

JOURNAL and Mr. Cowan's 'Guide Book' the gruesome work has all disappeared from my practice. Much good was also done by Mr. Baldwin, the well-known expert, for his practical address on bee-keeping at the Highland Society's show at Stirling, when he knocked into the minds of some of our hard-headed Scotch bee-keepers a proper and practical knowledge of the bar-frame hive and its benefits. I claim the honour of being one of the first to introduce in our part of the kingdom a bar-frame hive of the most approved kind, made by Allins, of Stuarton, near here.

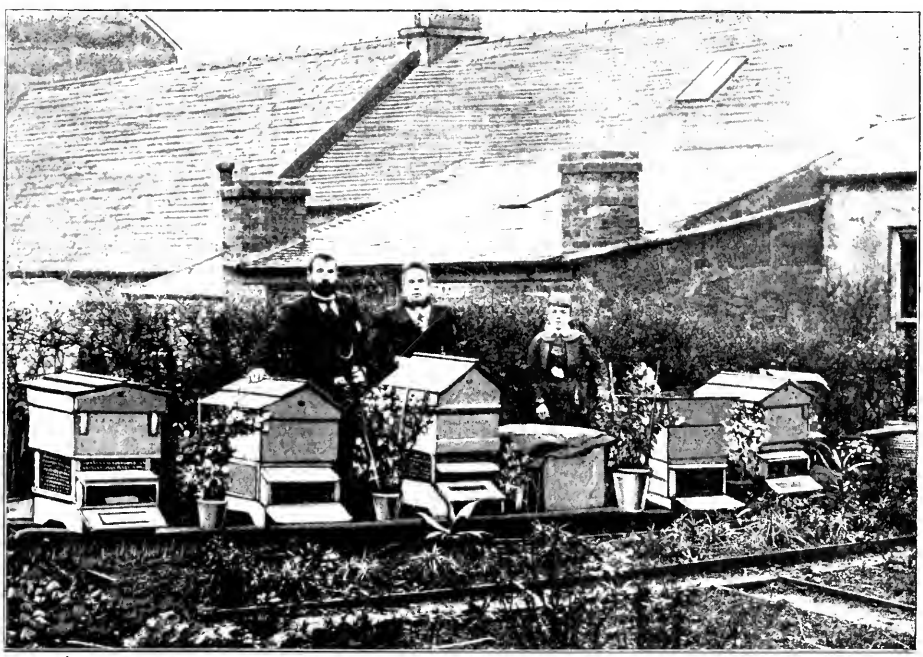
"I am a believer in imported Italian or Ligurian queens, which I have purchased from several well-known English dealers. These foreign queens produce bees that are hardy, industrious, and good honey-gatherers. With regard to my love for bee-keeping as a home pursuit, I can truly say the greatest happiness in my life next to home comforts are the hours spent with the bees. It is a real pleasure in that it tends to make one forget the troubles of this world. I may add that the value of bee-keeping as a rural pursuit is not generally known among the working classes throughout the country. The value of a few hives in the cottage garden is great, for not only is the honey a wholesome food for children, but it possesses value as a medicine. To those who love to work among bees, and watch how wonderfully the system of their work is carried out for the good of the whole colony, it affords a wholesome example, and leads one to higher aspirations. We thus get get many valuable lessons.

"I have a favourite cat at home here, and she will go out and sit among the hives for hours. The bees seem to have got to know her; indeed, I have many times seen them alight and rest on her head or back. But just let a strange cat come around; then you will see some fun! The bees will attack the intruder like a regular little army, and then the stampede is a 'caution' to watch I have at times seen them inflict very severe punishment in this way.

"Coming to the question of marketing honey, I may say our surplus is easily disposed of at the prices of 1s. 6d. per lb. for comb and 1s. per lb. for run honey. The grocers are usually on the hunt for it, so that we have no difficulty in disposing of the crop.

"We have a journey of fully twenty miles in carting the bees from the valley of the Clyde to the heather, which causes a good deal of expense; still, there is some profit for the bee-keeper.

"In conclusion, I may say the figures seen in photo sent consist of myself and my better half, who takes her share of the work in my apiary, and my daughter, who, I think, will probably fill my place among the bees in later years. In closing I wish all a good bee-season and prosperity all round."



MR. MATTHEW PATERSON'S APIARY, LOW PLEASANCE, LARKHALL, N.B.

CONVERSATIONS WITH DOOLITTLE.

PREVENTING INCREASE.

"Good morning, Mr. Doolittle. I came over to have a little talk with you on the swarming question, as some of my bees are becoming crowded, so they hang out on the outside of the hives."

"Well, Mr. Brown, swarming is a large subject, and one many bee-keepers have studied over; but up to the present time no one has fully stopped all swarming when working for comb-honey. But I do not wish to entirely stop swarming, for I believe that swarms which issue previous to ten days before the honey-harvest are a good investment; and to try and prevent such swarms as are disposed to issue at that time, or earlier, has always with me resulted in a loss in honey, and so I hive in a new hive all first swarms which come ten days or more before the main honey-harvest commences."

"Very well. And how do you manage these swarms?"

"As soon as the hive is half to two-thirds full of comb I put on sections, or, in cases where I have furnished the new hive with empty combs or filled the frames with comb-foundation, I put on the sections at once."

"I see you are pretty well posted in managing prime swarms; but what about after-swarms?"

"I have very little trouble with these, as I generally set the new hive with the swarm on the stand the parent colony occupied, placing the old hive on a new stand. This draws most of the field-bees in with the swarm, so that the parent colony has little desire to swarm when the first young queen hatches; I therefore allow her to destroy the other queen-cells."

"But can you depend on this always?"

"No, not always; and for this reason I look over the combs in the moved hives nine days after moving; and if the bees have destroyed the cells, and no 'piping' is heard, I am sure *that* colony will not swarm. If I hear 'piping,' or find queen-cells not torn down, I destroy all but one, saving the best-looking one, unless I find a cell from which the queen has emerged, which I always do where 'piping' is heard, in which case I destroy all. But my chief concern is what to do with such colonies as have not swarmed within five or ten days of the honey-harvest. To allow them to swarm at the very commencement of the harvest spoils the old colony from doing anything in sections."

"Well, so far you have been instructing me, and now I will try to see if I can help *you*. My plan to prevent swarming at the commencement of the honey-flow has been to stop them by way of a moderate increase, by the following plan:—Shake all the bees and queen from a populous colony into an empty hive—that is, a hive having frames filled with foundation, and a super on containing sections filled with thin foundation, for this shaken colony will contain a half more bees than would a swarm from the same hive. The combs taken, freed from bees but full of brood, are arranged back in the old hive, when I move another colony to a new stand and place this hive having the combs of brood in its place, giving them a laying queen. This last colony moved may be the weaker of those which have not swarmed, as any colony strong enough to think of swarming at all will furnish field-bees enough to care for the brood, providing the change is made at a time when the bees are flying freely. You will see that I make one new colony from two old ones, having all in the best possible condition to store comb-honey by the time the harvest arrives."

"Yes, I think I understand the plan, and I will try it. But suppose that I have all the increase I desire from the swarms which issue previous to ten days before the honey harvest. Is there no way of stopping the rest from swarming, and still have them work to advantage in sections?"

"Do you clip the wings of your queens?"

"Yes, always."

"All right. Now, if we have decided that prevention of increase will be more profitable than further increase, we must, when a swarm issues, catch the queen as she is found running around in front of the hive, and place her in a wire-cloth cage kept on hand for this purpose; spread the combs a little in the centre of the hive, and then by means of a wire attached to the cage suspend it in the centre of the hive, and the bees will soon return. The first queen-cell will be due to hatch in seven days; but if we wait the seven days and cut off the queen-cells at that time the bees will have brood still young enough, so they will start cells over the larvæ, and often cherish these cells, raising a queen from them and killing the old queen when liberated, thus destroying the usefulness of the colony, as a queen reared from such brood is practically worthless. So to overcome this difficulty I open the hive in four days and cut off all the queen-cells which are sealed, allowing the rest to remain, which satisfies the bees, so they do not build any over brood. I now wait six more days, or ten days from the time the swarm issued, when all queen-cells are cut off and the queen liberated. The bees will now go to work in the sections with a will that is almost surprising; and the honey that has been stored in the combs while the queen has been caged, together with that coming from the fields, makes an aggregate which booms work in the sections to the greatest degree."

"But suppose that I do not wish swarms to issue; what then? Cannot the queen be caged without waiting for the swarm to issue?"

"Yes, I often hunt them up and cage them, putting the cage near the entrance in one of the frames, allowing it to rest on the bottom-

bar to one of the frames not having the comb built fully down near one end. Where you cage in this way it is necessary to cut the queen-cells but once, unless you find some nearly ready to seal, for none will hatch from those built over brood before the eleventh to thirteenth day. Therefore, if we cut the cells on the tenth day and liberate the queen we are all right. But where a swarm has not issued, the bees will not always be satisfied without trying to swarm, if the queen is released in ten days' time, so on cutting the cells at this time I put a plug filled with queen candy in the cage, which is long enough to take the bees three or four days to eat out the candy to get to her, thus liberating her."

"This candy is put in a hole bored through the centre of the plug?"

"Yes."

"How long a plug does it take for three days?"

"If the hole is only ¾ in., 3 in. long is about right, as they eat out about an inch a day. But I hear a horn blowing up at your house. What does it mean?"

"It means my bees are swarming, and I'm off."—*Gleanings* (American).

Echoes from the Hives.

Hatfield Heath, Harlow, Essex, June 17, 1901.—Some time back when, after weeks of wet—the length of which are greater in imagination than reality—spring suddenly burst forth upon us, our old friend (not less the old friend of the bees) John Walton—than whom, from his experiences during a long life and as a bee-keeper of more years than the lifetime of many, none is better able to appreciate what is good for men and bees, and to know the power of bad things to develop good as well as ill—friend Walton, as I say, joining with his bees in a general appreciation of the return of spring and things good for bees and bee-keepers with it, having discussed the then present, and the prospects of the future, asks, "And what then?" At that time the weather was such as to make everything and everybody helpless except that it was good to be alive at all. By the way, I suppose we should try to feel so in all circumstances. The days were all that bees and bee-keepers could desire; aye, and the nights too. The latter were warm, and the roar of hundreds of fanning bees coming from the porticos of their hives made it evident that they individually and collectively felt the goodness that allowed them to live, and, standing in the light of the full moon of that time, listening to the thrilling songs of the nightingales, one could but say ditto. Though the hour was late, even the cuckoo expressed his appreciation of the good things then enjoyed by giving his usual song at intervals. Then came piercing east winds, so strong as to make it difficult for bees to enter their hives, frosty nights and contracted clusters of bees resulting in some apiaries I know in much brood being chilled. Then, again, in the third and fourth weeks of May, better weather and quite a flow of honey. A lady bee-keeper in my district took off a full rack of sections in the last week of May, and sold them, too. For the present I must say that drought, stormy days, with a strong north wind and intensely cold nights, are bringing bees quite to a standstill. On the night of Friday last, June 14, we had a severe frost here which killed a row of runner-beans near my hives, and that right in the middle of our season. But I note from the papers that they even had snow in N.B., so I really think we must get our overcoats. And what then?—Wm. Loveday.

Queries and Replies.

[2668.] *Dividing Strong Colonies.*—I should be very much obliged if you would give me a little advice. Last summer one of my stocks became queenless, and although I introduced another queen in the autumn, I discovered they had a fertile worker, and having then been over two months without a queen, there were not very many bees left; but as the hive contained plenty of stores in all ten frames, our expert said he would endeavour to get me some driven bees to unite with the stock in question. These he secured in the month of September; they came from a large old box, and I believe there were about 9 lb. in weight of bees, so that they simply packed the ten frames when we ran them in. They seemed to keep nearly as strong all the winter, and by the middle of April this year the ten frames were almost one mass of brood. I thought if I supered them in the ordinary way they would swarm, as the queen had nowhere to lay; and as I wanted honey most I put another body-box, holding eleven full-size frames, on top, giving queen access to both. Before the middle of May this also was full of bees and brood in most of the frames. I then put a box holding eight standard frames filled with foundation (wired) on as a super, with queen-excluder under. This is now crowded also, so that bees now fully cover twenty-nine frames. 1. If I keep extracting from the eight frames, would that be enough, or would you put another super on? What I chiefly wish to know is, as the queen seems such a prolific one, what would be the best way of dividing the stock in the autumn? I thought of trying the following plan:—When the honey-flow begins to abate, remove the super and then carry the top body-box to a short distance,

taking care that brood and eggs are left in each. The lot without a queen will, no doubt, then raise one, but how late in the year will it be safe to do this so as to be sure of the queen getting mated? 2. Would the last week in July be too late? This is the only point I am not sure of, as I would sooner do it earlier than run any risk.—F. B. THOMPSON, *Boston, Lincs, June* 11.

REPLY.—1. If you remove such of the frames as are filled for extracting, and replace at once with either built-out combs or frames filled with foundation, the super referred to will need no addition. 2. With regard to dividing the colony when the honey-flow begins to fail, it will probably be successful if carefully carried out. But we should remove the old queen—with her brood-nest and its attendant *young bees*—to the new stand. By so doing the plan will be *safer*, because, by adopting the method you propose, the whole of the flying bees would desert the hive moved and return to the old stand. Be careful to leave eggs and brood in all stages in the part left on the old stand, and make the division as early in July as possible. You should also examine the combs to see that queen-cells are well under weigh in five or six days after dividing.

[2669.] *Bees Deserting Hives in Spring.*—I am sending you a sample of comb and two queen-cells taken from hives that were a few days ago found beeless, and would be glad if you could explain why? Also, if I am right in judging that it is not the result of disease? The two queen-cells were cut from a frame-hive stocked with a last season's swarm, and which has the appearance of queenlessness, there being two or three queen-cells in a more or less advanced state on nearly every comb. Two only of the cells had been sealed over. I regret having opened the cells to see if they contained brood (as I see by B.B.J. that you like the samples not tampered with), and found only what I took to be the "royal jelly," such as I find in queen-cells removed from hives after swarming. Sample No. 2 is a piece of comb cut from a skep which when examined looked as if the bees had disappeared from starvation. There was living brood in the combs, for a few young bees were gnawing their way out of cells, but (as in sample) the worker-cells were elongated or drawn out beyond the usual size. There was no food in the hive, and only about a dozen dead bees on the comb. It seemed that the bees had wintered all right, but were famine-stricken in the spring. From the description given of foul brood in the "Guide Book," I take it that these hives were not diseased, but foul brood seems to be unknown here. Having ten hives of my own close to the above, I should be glad to get your opinion.—J. SEENEY.

REPLY.—1. With regard to the hive from which queen-cells were cut, it had evidently lost its queen for some time before the bees deserted. They had apparently tried to raise a queen and failed; then, as food became scarce in spring, the bees probably decamped and joined some other colony. The drone-brood in worker-cells will be from eggs laid by a fertile worker. 2. The dead brood in piece of comb marked "2" is "chilled" only, but we found one cell full of the brown ropy matter that clearly bespeaks foul brood; it is therefore certain that the hive was diseased, though it may have by some means been kept under control.

[2670] *Transferring Diseased Stocks to Frame-Hives.*—Since you were kind enough to answer my query *re* transferring bees, I have found that one stock has drawn out the sheets of foundation and stored about 12 lb. of honey in the new brood-chamber. The other stock has, however, not started to go down, and the bees have become very languid in their working. I have also noticed that they seem to be getting less in number. I have carefully examined them as best I can (they are in a box), and I find what I think is foul brood. Of course, having no previous experience of it, I cannot be certain about it, so I am sending a specimen of the comb for your inspection. Would you be kind enough to tell me through the medium of your valuable paper whether it is affected or not?—A. R. L., *Bristol, June* 16.

REPLY.—It is most unfortunate that the condition of the bees to be transferred was not ascertained beforehand, for the comb sent shows as bad a case of foul brood as can well be conceived. It is no use allowing the transfer to go on. We should destroy the box and bees at once and disinfect the hive below.

[2671.] *Vagaries of Swarming.*—I have five frame hives, and was preparing to take an artificial swarm from one of them (No. 1) but, unfortunately, was too late, as the swarm issued just as I started operations, and entered into another hive (No. 5) which was showing signs of swarming, and to which I had attached a swarm-preventing chamber a few days previously. I have one rack of sections on this hive, and bees are working harmoniously together. Are they likely to remain, or will swarm probably come out again from No. 5? On the first-named hive (No. 1), which is still very crowded, I have put a rack of sections and a swarm-preventing chamber. Is there any chance of any casts coming out of it.—HIGHLANDER, *June* 15.

REPLY.—If the swarm and stock are still working peacefully and well together, it is quite certain that one of the queens has been killed. We should, therefore, give the bees more surplus-room, and, if convenient, remove a couple of outside frames from brood-chamber, replacing with full frames of foundation.

Bee Shows to Come.

June 23 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 8 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries closed.**

July 24, at Broughton, Hants.—Broughton Flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohan, Secretary, Miller Arcade, Preston. **Entries closed.**

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury. Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shrewsbury, Salop. **Entries close August 9.**

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. W. SAMPSON (Battersea).—*Old Bee-Books.*—The book mentioned, "The Antient Bee-master's Farewell," by John Keys (1796), is not by any means scarce as ancient bee-books go. Its value is probably not more than about 4s.

R. F. WHEATLEY (Bromley). — *Fermented Honey.*—The "unpleasant smell and taste" arises from the honey in sections being unripe when removed from the hive, and fermentation has set up in consequence. But for that the honey would no doubt be quite palatable.

E. W. S. (Enfield).—*Bee-Nomenclature.*—Beyond a slight trace of foreign blood, such as is seen in nearly all hives, the bees are the ordinary or common brown variety of this country. Yours are evidently a good strain, from the particulars given.

P. CRUICKSHANKS (Grantown). — *Trying Special Queens.*—We shall be very pleased to get your experience of the queens mentioned, and as yours is so fine a district for good bee-forage, it will give the newly-introduced queens a good chance of showing the qualities of the bees produced by them.

S. HEAD (Ivybridge).—*Ridding Hives of Wax-Moth.*—Despite the remedies some propound for ridding hives of wax-moth, we think the best of all methods is to keep only strong colonies. We never yet heard of a good practical bee-keeper allowing his stocks to be seriously damaged by wax-moth. If a good look-out is kept and the larvæ destroyed when found, you will find it easy to keep the nuisance at a distance. It is only when combs are left about unlooked at, or hives are neglected, that the moth has a chance of getting the upper hand.

HARTWOOD.—*Honey Samples.*—The honey sent is quite fit for table use, if the flavour is not objected to. We fancy it comes mainly from horse-chestnut, but other sources of supply have been tapped by the bees, so it is a mixed sample.

F. HAMSHAR (Sussex) —*Re-queening Hives.*—It is only wasting brood and eggs from other hives to give such to stocks long queenless, and now having a fertile worker in the hive producing drones. The bees also are practically valueless, therefore to "add a swarm or cast" to them would do no good in any way. Better let the colony die out if you do not care to destroy the bees.

H. H. W. (Newton Abbot).—*Mead.*—Your sample is an infinitely better mead than any of the honey beverages called mead in which spices are used. Indeed, we judged it on the standard of high-class mead, and but for lacking a little in body it would stand very well.

W. H. H. (Banbridge).—*Joining Bee-Association* —The hon. sec. of the Irish B.K.A. is Mr. M. H. Read, Clonoughlis, Straffan Station.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

S. THOMPSON (Tring).—There is foul brood in comb, but it appears a mild case.

D. R. (Balnyle Lodge).—There is foul brood of old standing in comb, and as the queen is old and a drone-breeder, we hardly think the colony is worth the effort of trying to save the bees. It is safer to destroy them.

W. K. BAKER (Penzance).—Referring to the three samples of comb sent, No. 1 is old pollen-bound comb, useless to bees or bee-keeper. There is no trace of brood in it, foul or otherwise, but being useless, we should destroy it. No. 2, also very old comb; two or three cells are sealed over, but it would appear to have had no brood in for a very long time, as the larvæ in sealed cells has dried up and disappeared. No. 3 contains foul brood of old standing; no trace of recent brood. All such combs as samples were cut from are unfit for using again, and any good bee-man would promptly burn them.

J. M. KIDD (Stocksfield).—Your neighbour, apparently, does not often examine the combs in his hives. The sample sent is so dry and old that no trace of brood is left in the sealed cells. We cannot, therefore, definitely say as to disease, but it looks very suspicious, and we should not use such combs on any account for bees.

TOM C. E. (Llandilo).—Bad case of foul brood.

C. W. S. (Lincoln).—Foul brood is developing in comb sent.

J. ENGLISH (High Spen).—Comb is badly affected with foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SPLENDID NEW SEASON'S HONEY, in 28-lb. tins, 6½d. lb. Tins free. Sample, 2d. RICHD. DUTTON, Terling, Witham, Essex. G 38

REMOVING.—BEES, Frame Hives, and Appliances FOR SALE. Any reasonable price. INGLIS, P. O. Delph, Oldham. G 41

WANTED, EXTRACTOR, HIVES, or APPLIANCES Exchange three large Aylesbury Ducks and Drake; year-olds laying, grand pen. T. THORPE, Lea, Matlock Bath. G 42

WANTED, 500 (more or less) QUEEN BEES and QUEEN CELLS, alive or dead. State lowest price. BONNER CHAMBERS, Diptford, South Brent, S. Devon. G 40

WANTED, second-hand Root's "A. B. C." of Bee-keeping; also "A Modern Bee Farm," by Simmins; also "The Life of the Bee." Mrs. ROYDEN, Sefton, near Liverpool.

ALUMINIUM CAMERA (by Mayfield), lantern-plate size, in solid leather case, and walking-stick stand; very light and compact; cost £6 6s.; take 50s., or exchange Bee Appliances. COTTERILL, 31, Pemderon-road, Croydon. G 36

OWING TO DEATH of owner, must clear. 11 strong STOCKS of BEES; 9-inch bar-framed Hives, with section crates and sections (nearly full); 2-inch straw-skeps; two empty bar-framed Hives; several extra Frames and Sections. £6 the lot. Hives alone worth more. NASH, Upholsterer, Taunton. G 37

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s. 6d.; Italians, 6s. 6d.; home-bred from imported mothers, 5s.; others, 3s 6d.; swarms, from 10s. 6d. Stocks and Nuclei, headed by any variety queen at fair prices. Former customers are repeating orders. Particulars of E. WOODHAM, Clavering, Newport, Essex.

FOR SALE (owner leaving country), several STOCKS pure ITALIAN BEES, three to five bands of yellow, very handsome, gentle, magnificent workers, 30s. a stock. Large stock of everything appertaining to bee-keeping. "Wells," "Ford-Wells," "Conqueror," "W. B. C." and other Hives. Flat Drawn-out Store Combs for brood and supering. "W. B. C." Super and Combs complete (broad or ordinary), 6s. each; good Brood Combs, 7s. 6d. for 10; Observatory Hive, glass on all sides and top, 14 frames. Everything guaranteed healthy. Major CAMPBELL, King's Regiment, Woodside, Ainsdale, Lancashire. G 35

STRAW SKEPS, cane bound, 18s. dozen; 9s. 6d. ½ doz. ALFRED HARDING, Straw-skep Maker, Bellingdon, Chesham, Bucks. G 29

FOR SALE, Bar-frame hives, Skeps, Sections, Comb foundations, &c., chiefly new. Mrs. KIME, Mareham-le-Fen, Boston. F 31

ORPINGTON EGGS, Black and Buff from handsome fowls (Cook and Partington strain), 2s. 9d. dozen. E. MIDDLEMAS, Stamford, Alnwick. G 30

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

STRONG natural SWARMS, 1901 Fertile Queen, 10s. 6d., 12s. 6d.; second ditto, 8s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. G 12

WANTED, SECTION-HONEY, best quality; 1901 season. Good cash price for early delivery. T. SMITH & Co., 17, Cambridge-street, London, W. G 10

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

25TH YEAR.—STOCKS on six wired frames, 16s. 6d.; Swarms, 10s. 6d., 12s. 6d., 15s. Queens, 5s. ALSFORD, Expert, Blandford. F 88

FIVE-FRAME STOCKS, young Queens, 18s. 6d.; three-frame ditto, 12s. 6d.; fertile queens, 4s. each. FRANK REED, Portslade, Sussex. G 23

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Fulborough, Sussex.

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 20th inst., at 105, Jermyn-street, S.W., Mr. F. B. White occupying the chair. There were also present the Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, Messrs. R. C. Blundell, W. Broughton Carr, J. H. New, T. I. Weston, C. N. White, and the secretary. Letters apologising for inability to attend were read from Miss Gayton, Major Fair, Mr. W. H. Harris and Mr. E. Walker. The minutes of the previous meeting were read and confirmed. The chairman presented the Finance Committee's report, and brought forward a list of payments recommended by the committee. The report was approved. The monthly report of work by the expert was presented and dealt with. A large number of applications for services of judges and examiners were brought forward for consideration, and nominations made of gentlemen to officiate at Brigg, Chester, Madresfield, Melton Constable, Newcastle-under-Lyme, Reading, Southall, Swanley, and Wakes-Colne, Essex. It was resolved, upon the recommendation of examiners, to grant expert certificates to Messrs. Leveson Campbell, E. W. Carbines, J. Paynter, and G. Skillhorn. Designs for a new medal were submitted to the Council, who asked Mr. Carr to be good enough to prepare a drawing—in accordance with certain suggestions made by him—at the next meeting, which will be held on Thursday, July 18.

THE HONEY SHOW AT ST. HELENS.

SPECIAL NOTICE TO EXHIBITORS.

Owing to an unfortunate error on our part, the date for closing entries for the above important show has been forestalled by a month, and we have only now had our attention drawn to the mistake. In order, therefore, to repair, in some degree, the "slip" made, we now invite attention on the part of exhibitors to the advertisement on front page of this issue, by which it will be seen that entries close on *July* 11, not June 11, as we supposed.

We regret to hear that entries have already been lost owing to the mistake, which is the more unfortunate because the Agricultural Society is this year offering especially liberal prizes in cash, silver medals, &c., for honey and bee-appliances in open classes. Not many of our leading Agricultural Societies offer over £30 in prizes to the honey section of their shows, but notwithstanding the liberal way in which the R.L.A.S. deal with bee-keepers, they have hitherto met with but indifferent support. If evidence were needed of this fact, it needs but to refer to last year's report of the show at Rochester (*vide* B.B.J. for August 2, page 301), where it will be seen that in the appliance-classes one exhibitor carried off all the ten valuable prizes, there being no other competitor.

We trust that exhibitors will take note of this, and write for schedule without delay.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

MY EXPERIENCES.

AFTER FOUR YEARS OF EXPERIMENTING.

[4402.] As I have now been bee-keeping about four years and have during that time devoted myself entirely to experimenting with different hives, races, and systems, the following notes and incidents may be of interest to your readers :—

I find myself in a poor honey district with very little clover, an unreliable and limited heather flow from bog heather, and a considerable amount of fruit and sycamore honey, when conditions are favourable, for about a fortnight or three weeks in May. As we have here in Lancashire late frosts almost invariably extending into June, getting stocks strong enough for the May honey flow is a difficult and risky business. Under these depressing circumstances it is scarcely to be wondered at that my average "take" has hardly been 20 lb. per hive. Last year most of my stocks had two, and some three supers on during fruit bloom, but the clover season proving a complete failure, this honey was gradually taken down again by the bees. One fact has impressed itself very strongly on me, and that is the wisdom of requeening the majority of your hives every autumn. A young queen fertilised and introduced at the end of August will, as it is her first chance of egg-laying, soon lay the foundation of a strong stock next spring. I would like, further, to put in a strong plea for Hoffman frames. The absolute regularity and interchangeability of combs built in these frames have surprised many people who have seen my brood combs. With care, "W.B.C." standard frames can also be brought pretty nearly to perfection, but it is difficult to go wrong with the Hoffmann. Supering with standard frames is another point I am personally convinced about, and I am glad to see Mr. Rymer's long experience tallies with my short one. My arrangements are, however, a little different, and, perhaps, a little simpler. I use, of course,

the "W.B.C." hive, and when my brood-box is full of bees—say, on five or six frames full of brood—in the spring, I place another super of three or four standard frames above this, filling gradually with frames as room is wanted, and giving the queen free access everywhere. I take any frames of honey that are in the lower body and put them in the top one, replacing with empty combs below. This sends the bees aloft at once, and by the middle of June I expect to have seven or eight frames of brood in the bottom, and six or seven in the top box. This is the commencement of what clover flow there is. If there has been a good fruit and sycamore yield, I have been able to put on a third super of standard frames, but have not as yet found the queen willing to penetrate so far.

When honey starts coming in in earnest—say, about June 15—I take the ten best frames of brood, sealed for choice, and put them with the queen in the bottom box, excluder over, and either distribute the remaining brood to any stocks needing it, or leave it in the super to hatch out when it is not possible to find room for it elsewhere. I imagine that a good strong nucleus could be made from these spare combs if a few young bees were left with them, and they were put into a nucleus hive with a hot brick wrapped up and laid on top. I give these notes with the greatest diffidence, as I know how very dogmatic bee-keepers are apt to become—especially beginners, among whom I rank myself—but you, Mr. Editor, will be the best judge as to whether they are worth publishing. I simply give my experiences and opinions for what they are worth. One incident which occurred last year struck me as being very unusual. A hive swarmed; I returned the swarm, and two days afterwards found eleven virgin queens in the hive—one queen on each of seven combs, and two on two different combs. These were all well matured virgins able to fly, and this I can assert with the greatest confidence, as I have practised queen raising with considerable success, and have ample experience in that line. I am glad to say that I was able to save them all.

I have secured a photo of a queen laying eggs on my gardener's finger, which should be an unusual experience. We watched her very carefully, and the statement of "South Devon Enthusiast," "that use of the sting is plainly seen" (I quote from memory) always puzzled me very much, for I could swear that she keeps her sting carefully out of sight. I did, in fact, make several drawings of the exact action at the time.

Another incident is connected with a swarm last July. A small swarm (a cast) came out, and without settling made straight off in a south-westerly direction. As soon as it had cleared the trees near my house the bees flew *close to the ground* for a mile or so at such a pace that I could barely keep up with them. They disappeared over a thick fence, and by the time I got through—perhaps thirty seconds afterwards—they were nowhere to be seen, and though I scoured the country I was unable to trace them, in spite of its being very flat and open with no other trees or hedges in sight. Three weeks or a month afterwards, a neighbour of mine, who has kept bees for many years, and is a most observing man, came to see me and I told him this story. We agreed to search the country then and there to see if we could form any idea where the swarm had gone. Continuing the very straight line that the bees had taken, we eventually came upon a small farm house, whose owner, after being cross-questioned by my friend, gave us the information that about a month previously a man had moved (with some hives of bees) into an empty cottage farther on. Some of the hives he thought were empty, the bees having died out. My friend then remarked that he was absolutely sure that my swarm must have gone into one of the empty hives, having located the spot previous to swarming, as he *knew* that bees, when they had previously located themselves, did not settle, but flew straight to the new stand and always *close along the ground*. My bees are Italian; the bees belonging to this man were black; and sure enough we found a small swarm of Italians located in one of the hives.

In the course of my queen-raising experiments I have had several queens eat their way out of their cells while in my hand, and some of these were able to fly immediately after issue. In one nucleus-hive I had a drone-breeding *bee*. The stock dwindled away until there were only a few dozen bees left, but still the little patch of drone-brood was kept up, and the majority of the bees left were very undersized drones. We looked over this little lot time after time to see if we could "spot" any worker-bee that looked at all different from the others, but they were all ordinary workers to all appearance, though old and shiny-looking. I have imported many queens since starting my experimental work. One that arrived for me from America in *November*, in cold windy weather, was the only bee left alive out of the twenty-five or thirty that started off with her a fortnight before. She was apparently quite lively, and next year (1900) headed one of my strongest stocks. All the worker-bees with her were *quite* dead.

In conclusion, I may add that I always use alighting-boards, and find that they are of much more real use to the bees when they slope *downwards* towards the hive entrance. The local blacksmith made me square iron frames out of 1 in. by ⅛ in. iron to fit the top of a "W.B.C." super, and I find, with square quilts cut to the same size, I have the minimum of trouble in opening hives, especially in windy weather. When the weather gets hot in June I prop the body-box up on pieces of stick

about ½ in. thick, and so give ventilation all round. No brace-combs are built.—GEORGE CAMPBELL, *Woodside, Ainsdale, June* 20.

COMMENTS ON CURRENT TOPICS.

[4403.] *Suspected Combs.*—I am interested in observing the "barometric" readings in the column devoted to this subject. They form profitable reading in many ways. Foul brood bulks small in our pages, comparing the present with the past, but I fear it has in no way decreased, either in the number of actual cases or in the area of infection. Certainly it has not in the number of specimens sent for examination. I trust these last will rather increase, as thereby many who have no suspicion of having the pest in their neighbourhood may get their eyes opened in time and so take the trouble in the incipient stage, when it can be cured. Our editors' generous aid in diagnosing these cases must be a "boon and a blessing" to countless bee-keepers all over the country. Burns designated toothache, "That hell o' a' diseases." Apiculturally the phrase is an apt description of *Bacillus alvei*. I know, alas! the disease when I see it, but even to a practised eye, a comb when only superficially examined, may pass muster though affected. I had a case in point the other day. When examining a hive, I had just returned a comb as above suspicion when, on second thoughts, I again raised it. No perforations were perceptible, there was no smell, and the unsealed larvæ looked normal, pearly white, and healthy; but several sealed cells showed a dull capping with a slight depression. Picking out 100 carefully-selected cells, fully half showed scarcely any visible contents; *one* contained putrid matter, and the larvæ in all the others were in an unhealthy state. The comb was a splendid one, and almost all other cells were simply perfect; yet I consigned it to the flames. Soon, if it had been left in the hive, it would have become a hot-bed of disease. Therefore I urge that specimens of all suspicious combs should be sent to the JOURNAL; and when it is declared to exist, prompt and drastic measures should be adopted and the pest "not scotch'd, but killed."

Foreign Queens.—I touch this subject with diffidence, but a doubt exists in my mind as to whether the craze for foreign queens accounts for a large proportion of hives being broodless and queenless in spring. I venture to make two statements — 1. The constitution of foreign queens as a rule is unsuitable for our more rigid climate. 2. Either from this or from hereditary temperament they are less tolerant of early manipulation than the home product, and hence get balled more readily.

Bait Sections.—I was glad to see Mr. Doolittle standing up so staunchly for these. Several eminent bee-keepers some time ago contended that they were fit only for being smashed up and made into wax. I would have every single unfinished section carefully preserved, and one or two placed in the centre of every rack. But I would have them all nicely cleaned up by the bees before storing them away, as I fear any granulated honey they might contain would be a source of "infection," and granulate the new crop stored in them. This seems to be a moot point, however. I "blue-pencil" all these sections, and seldom find that they show any defect of construction or finish.

Snow in June.—Our weather this year seems to come in extremes. Rosy June has witnessed cyclonic disturbances rarely experienced so late as the middle of the month. Hail, sleet, and snow showers fell from the 9th to the 17th over a wide area. The Grampians were clothed with white almost to their base, and our local Ben resumed temporarily its winter mantle.* The thermometer, after making maximum record readings, fell to 45 deg., which is a point far below the average. Rain fell copiously and did much good, as the prolonged drought was beginning to tell. White clover is now in bloom and promises well, and hives are teeming with bees. Swarming has been going on nearer the coast, but at our higher altitudes I have heard of none as yet. Supers are only now being placed on hives, so we are far behind the Southerners, though I learn they have been doing badly.—D. M. M., *Banff, N.B.*

QUEENS FROM CYPRUS.

[4404.] It may be of interest to some of your readers to know that queens are again coming through safely from Cyprus. I recently received one in good condition from Mr. Dervishian.

The New Tall Section.—I should like to remove the impression conveyed in Mr. Woodley's "Notes by the Way" (4397) last week that the new tall thin 1-lb. section (4¼ in. by 5 in.) is supplied only as a four bee-way section. We are supplying the two bee-way and also the "plain" form of this section, but we find that the four-way is preferred by most people.—F. W. L. Sladen, *Ripple Court, Dover.*

HOW TO UTILISE SWARMS

WHERE INCREASE IS NOT DESIRED.

[4405.] Referring to the footnote to 4395 (page 236) in B.J. of June 13, I beg to say the article under the above heading appeared in B.B.J. of November 8, 1900 (page 439). I was much struck myself at the time by the ingenious plan put forth by Mr. Cupar, the writer of the article in question, and although I have not been able to give the plan a trial myself as yet, I hope to do so soon. I only

* Tomintoul, the highest village in Scotland, had 6 in. of snow on its single street on the morning of the 13th.

wish now to point out a fatal error that appeared in all the subsequent letters dealing with Mr. Cupar's plan in your pages, viz., that *queen excluder zinc* should not be used on any account, but *perforated zinc*, which is quite a different thing, the holes in latter being only about $\frac{1}{16}$ in. in diameter. I also take it that the swarm should have a separate entrance as far as possible from parent entrance, say, at side or back; the main object is to keep the two lots of bees totally separate while allowing circulation of air so that both colonies will acquire the same smell when reunited and old queen removed.—D. ADAMS, *Strabane, Ireland.*

BEES IN WALES.

[4406.] It may interest some of your readers to know how bee-keepers fare in these regions. The country around is very mountainous, and our bees may be termed "hardy mountaineers." Early bee-forage is rather scarce; we have no lime trees and very little white clover. Orchards are unknown. But still our little workers are able to gather a considerable quantity of honey before the heather season. The latter is our best source; my bees worked on it till the end of November last year. I placed two lots of driven bees in a skep the first week in September, and gave them 6 lb. of syrup. It may be said it was too late for comb-building; however, they managed to do it, as the weather was fine and heather plentiful. Now I have the satisfaction of knowing that I saved two lots of good bees from the sulphur-pit. I also had a large swarm from this skep on June 21, which is now placed in a frame-hive.

The possibilities of the bar-frame hive are not generally known here. Old skeppists are strongly opposed to it. It has, however, "come to stay." One of its adherents took 120 lb. of honey from a bar-frame hive in 1899, and 92 lb. in 1900, thus proving its superiority.—J. B. WILLIAMS, *Gelli Lyden, Merioneth, June* 22.

SOME ESSEX NOTES.

DELAYED EXHIBITS.

[4407.] In reply to Mr. Wm. J. Norman (4399, page 244), I must say that while sympathising with him, I think his claim against the railway company is bad, as shown by his own statement. He says from what he could gather his exhibit arrived the same day, *i.e*, the day previous to the opening of the show, and all the exhibits should have been in safe hands if delivered to the Hants B.K.A. But accidents will happen, and I suppose neither the Hon. Secretary of the Hants B.K.A. nor the "S.C.A." Society can be held responsible. I have known exhibits of honey to be left at the tent of the Secretary of the Agricultural Society and entirely forgotten through being put under the table. If, as it appears, Mr. Norman was able to attend the show himself, it seems a pity to have run any risk either of damage or delay by sending his exhibits alone. Staging is just one of those things that (though the committee may do their best) the exhibitor should personally attend to; he can put the "finishing touches" which officials cannot undertake. I notice that Mr. Norman speaks of the first prize exhibit in a way that leads one to suppose that he considers granulated honey unworthy of a prize if clear honey is staged. The fact of an exhibit of honey being well granulated is all in its favour if other points are also good. The fact of honey being either clear or new does not place it above another exhibit which is granulated. Neither does the fact, as stated by your correspondent, that he generally sweeps the show-bench go to prove that his unjudged exhibits would have taken first place in their classes. I suppose we all hope to be successful when we show, but still we should not consider our own exhibits better than others before the judge has awarded the prizes. "Counting the chickens" while the hen is still sitting usually brings disappointment. I am prepared to accept Mr. Norman's statement as to the good appearance of his exhibits, but appearance is only one of the several points to be considered. I have sometimes been given a second prize by a judge at a local show for a first-class exhibit of sanfoin sections because of their yellow tint, the first prize being given to a poor exhibit because the comb was whiter.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

Echoes from the Hives.

Wooler, Northumberland, June 22.—Mr. Wm. Loveday, in his "Echoes" in this week's B.B.J. (page 247), remarks about the snow in N.B, but we have also had snow on this side the border. On June 12 the Cheviots were white with snow, and at Wooler, which is about seven miles from the top of the Cheviot Hills, it was cold enough for overcoats. Since then, however, the weather has improved considerably, the last four days being warm and genial.

Little has been heard of swarming until this week, when a few have come off; but, generally speaking, swarms are very late this year, and by no means so numerous as last season. My hives are all doing pretty well, and will probably yield a fair amount of surplus should we be favoured with fine weather, but with such an experience as that mentioned above it is advisable to rather under than over estimate the probable amount of surplus honey.—JAS. WADDELL.

REVIEWS OF FOREIGN BEE-PAPERS.

R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

The Leipziger Bienen Zeitung. — The Mohammedan inhabitants of the Caucasus are great lovers of honey. For this reason the wealthy among them are mostly apiculturists, and often possess from 100 to 400 hives. These are woven from osiers and daubed with clay, and the treatment of the bees is, like the manufacture of the hives, extremely simple.

In the spring the Tartar bee-keeper drives his bees on a long ox-waggon by night towards the river, for there the first green appears and the first bee-pasture. Before swarming time he removes to the steppes, then lovely with flowers, and arranges his hives in neat order on the grass. As there are no trees, he hangs in convenient places pieces of bark shaped like sugar-loaves, and his swarms generally take possession of these, from which they can easily be transferred to an empty skep. As the Caucasian bee never stings except in self-defence, smoke and veils are quite superfluous and are never resorted to, so that the management of the bees is mere child's play. After swarming the hives are taken to the mountains, where the honey harvest is usually great. When there is no more honey to be got, the heaviest skeps are sulphured and sold in the neighbouring town, and although honey is very cheap a nice little sum is usually realised.

There are two varieties of bees kept, and the small, black, and thievish bee is most widely distributed, while the other variety is larger, and uncommonly gentle and industrious. Diseases of bees are unknown here.

Practischer Wegweiser (Germany). — A grocer at Dantzig has been condemned to a fine of £3 15s. for selling manufactured honey instead of the genuine article.

Practischer Wegweiser. — Bee-keeping in China.—Unlike our bees, we are told that the Chinese bee (South Shantung), which has a blue shade in head and abdomen, is exceedingly gentle and stings only on strong provocation. This is of great importance at swarming-time. When the swarm rises the natives throw sand over the bees to compel them to settle. Then a large ladle made of osiers is taken, and rubbed over with honey. This is held over the bees. A feather in the other hand is used to drive them into the ladle. In a little while they are all congregated in it, and can then be carried to their new hive. These are much like our skeps, plaited with straw but daubed inside with clay. The bee shelter is also built of clay, and roofed with straw. Generally a red rag hangs from it to keep away evil influences.

The honey is very dear, and, like the wax, is only used for medicinal purposes. The honey harvest is poor, as there are very few flowers. China has too many people and too little cultivated land; there are no meadows or woods. Meadows are not wanted, as the domestic animals receive no hay or clover, but must be satisfied with the leaves of the native corn, chaff, and straw. In vain we search for honey-bearing weeds; the Chinese allow none to grow—they are hoed out betimes. The poor man's garden contains garlic and cayenne pepper, that of the wealthy vegetables, egg plants, and tomatoes. We see no flowers, for the Chinaman thinks garlic more profitable; he does not even find their scent agreeable. Thus the Chinese bees have only the fruit-trees to depend on. There are plums, peaches, apricots, quinces, pear and apple, nuts and chestnuts, and the delicious date plum, whose wood is the true ebony.

Leipziger Bienen Zeitung (Germany).—We hear that a sugar manufacturer in Brunswick has applied for a patent for a preparation by which he proposes to feed up bees, so that they shall produce linden-acacia or clover honey, as desired. This is a glaring offence against the law. The public is to be deceived, and a comparatively worthless product sold under a false name, instead of the real thing. The public is ready to pay a high price for real honey, but not for a manufactured product. This has no right to be called honey at all. The name honey belongs to the bee-keeper, and not to the sugar manufacturer. We have, therefore, appealed against the granting of this patent, and hope to be successful.

Münchener Bztg.—In the district of Renzberg, in Bavaria, on December 25, a miner found a very acceptable Christmas present in a hollow fir tree. He took from a colony of bees established there 21 lb. of honey, and, singularly enough, there was some brood well sealed over on two of the combs.

Prakt. Wegweiser.—Honey for infants.—Many young infants suffer from a thick coating of white mucous which spreads over the tongue. If this is not removed, small blisters arise which cause pain in sucking. The best remedy is a daily dose of honey. This cleanses the gums and the tongue and has the best possible effect on the general health.

Prakt. Wegweiser.—Distance of bee's flight.—The island of Lérim in the Mediterranean, which is three or four miles distant from the coast, is visited by bees from the neighbouring land.

Bulletin de la S. d'Apiculture de la Somme.—Honey removes insomnia. In consequence of its digestive property and the formic acid it contains, honey greatly assists digestion and thus helps to procure refreshing sleep—that is, of course, supposing there is no special cause for insomnia. Often too much fatigue either of brain or of the muscular system occasions want of sleep; in either case honey exercises a beneficent influence. Being directly assimilated, it is especially carried into the general circulation and restores to the

wearied brain and limbs the lost energy, at the same time causing sleep.

L'Apiculteur (France).—Preference of Bees. —Vipers' bugloss, the borage, and phacélie* appear to equally attract the bees, to the exclusion of the wild turnip, white or red clover. Mignonette and leonurus cardiaca come next in favour, and they have the advantage of a longer flowering season. Cabbages, the colza and the cruciferæ in general, much frequented in spring, are a great resource. Bees have very marked preferences. Thus, a few yards of symphorine, of mignonette, or sainfoin standing alone will be entirely neglected, while a little patch of centaurea (cornflower), with four or five blossoms, or a few plants of bugloss or borage, will have two or three workers. A plant of symphorine will receive no visits, while a tuft of heather will be covered with bees from morning to night. A field of sainfoin is only productive when the whole is in blossom.

PRESS CUTTINGS, USEFUL AND "OTHERWISE."

WATER FOR BEES.

The colour of honey varies very much in certain districts. The clearest and most pure-looking honey is that collected from white clover. The flower of the tree also yields a fine-coloured honey. Fruit blossom, too, is very pure, but honey from a great variety of flowers is often of a dense colour, and heather honey, although valued as being distinct in colour, is often quite black. The best colour is a clear rich amber, but, apart from colour, the flavour is influenced considerably by the ingredients, and a great deal of honey is bad in colour and disagreeable in flavour from the bees drinking unclean water. Bees are great drinkers of water in hot weather and when they are hard at work. They will often be seen in pools and streams alighting on the damp stones and the edge of the water. I know of a situation where there is plenty of fruit blossom and other good honey-yielding flowers where the honey is always of a dirty colour, and, I might almost say, nasty flavour. Considering the favourable conditions of the district, those who do not study or understand their habits would be puzzled to understand why the honey should be so inferior; but the only water available for the bees in hot weather is from farmyard pools, which contain a good deal of farm sewage. They drink this, and convey a good deal of it to the honey chambers, and herein is the secret of their making much bad honey when the reverse would be expected from them. The remedy, and this has been proved to be effective, is to place some dishes with pure water in them near the hives. Few, probably, have ever tried this. Where plenty of clean water is naturally provided it is not necessary to give them any, but let those who have not been satisfied with their honey, and where clean water is deficient, try giving them an artificial supply of pure liquid, and I am quite certain they will find their honey all they could desire. As honey storing is now in rapid progress the pure water should be given them at once, and change the water every day or so.—*Leeds Mercury.*

* I presume "phacelie" (French) to be the French bean, and known as *Phaseolus vulgaris*.—R. H.-H.

NOVEL CLUSTERING PLACE FOR A SWARM OF BEES.

A novel incident occurred in Finkle-street, Thirsk, the other day. Mr. Mark Neesam, hairdresser, observed a swarm of bees, and was crossing the road when the queen-bee settled on one of his legs. With admirable coolness he remained standing, and allowed the bees to have their way, with the result that he was quickly covered from head to foot. Mr. R. T. Tennant, local manager of the York City and County Bank, who is an expert apiarist, was sent for, and he procured a hive, into which he transferred the queen-bee. She was soon followed by her subjects, and Mr. Neesan did not receive a single sting.

[We may add that Mr. Tennant is Hon. Sec. of the Thirsk and District B.K.A.—EDS.]

BEE-KEEPING IN IRELAND.

Bee-keeping appears to be becoming more popular amongst the small farmers of Ireland, as according to statistics published by the Department of Agriculture, the industry is steadily gaining ground. A table included in the returns recently issued shows that in the year 1899—the last for which the official figures are forthcoming—the quantity of honey produced in Ireland showed an increase of over 140 per cent., as compared with the average of the previous ten years. Altogether, the quantity of honey produced in 1899 amounted to 745,692 lb., and of this aggregate 221,313 lb. were produced in Munster, 205,947 lb. in Leinster, 197,609 lb. in Ulster, and 120,823 lb. in Connaught. No farmer should be without a few stocks of bees. —*Farm and Field.*

CYCLISTS AND BEES.

Cyclists have been telling their experiences when a colony of bees have swarmed upon them. One, writing to a contemporary, says the swarm came so suddenly that he had no time to become frightened. His remedy was simple and effectual. "I kept on cycling," he writes, "but at a much slower rate, calmly surveying my crawling companions, until one

by one they all left me. The most trying part was the tickling sensation as they walked about my hands and face and neck."

Queries and Replies.

[2672.] *Foul Brood in Transferred Stock.*—About three weeks ago I transferred a stock of bees, along with two combs, from a skep to a frame-hive. On Saturday last I had a visit from an "expert," who informed me that the two combs which were transferred, as well as one of the newly-drawn-out ones, were very slightly affected with foul brood. In consequence, I burnt the three combs above mentioned, and sprayed the rest with a solution of salicylic acid, as instructed. Will you please inform me through the B.J. if you consider the above treatment sufficient to effect a cure, and if not, I shall be glad if you will advise me what other remedy to use? As the stock is a very strong one, I am inclined to think that there should not be much difficulty in getting rid of the disease. —GEO. H. WARD, *Grange-over-Sands.*

REPLY.—It is quite possible that removal of the affected combs and the remedial measures taken will get rid of the trouble, but we advise that a careful look-out be kept to see if the stock maintains its working powers for the next three or four weeks, or until the honey season is ended. Then make a thorough examination of combs and report result to us, sending a sample if suspected. We will then advise further.

[2673.] *Housing a Stray Swarm.*—I have lately commenced bee-keeping, but have not much time to look after my apiary, which at present consists of five colonies in frame-hives and a few skeps. Last year a swarm clustered under the floorboard of one of my frame-hives, and had evidently been there for some time before I noticed it, as the bees had built a lot of comb in this outdoor hive. I thought I would place the bees and combs above a hive fitted with frames and foundation, and endeavour to get them to work down into it. The floorboard underneath which the combs were built had short legs attached, so that there was a good space between the bottom of the floorboard and the top of the frames of the new hive. I blocked up the open spaces at the sides, and the bees were wintered in this condition. On examining them to-day (June 19) I find the bees have filled up all the space and have partly worked into the hive below. But the combs are all joined to the top bars of the frame-hive, and it appears to me a big job to put them right, for I hardly know how to begin with it. Will you kindly give me some advice in your next week's B.B.J.?—A BEGINNER, *Soham, June* 19.

REPLY.—There is nothing really difficult in the "big job" our correspondent looks forward to. We should simply allow the bees to work down into the frame-hive below and use the combs "built outside" for storing the season's surplus honey in. Then, when the season is over, sever the brace-combs—or attachments to top bars—by drawing a wire between the junction of the upper and lower parts of the two hives. It will need some care and a little skill in this "cutting" process, because of the weight of honey the upper combs will (we hope) contain. Before removing the upper half or surplus-chamber the latter should be raised about one-eighth of an inch by means of little wooden wedges inserted at each corner. This will allow the bees inside to clear away all running honey from the several brace-combs without interference from outside bees.

[2674.] *Driving Bees when Transferring.*—Would you kindly answer me the following question:—In transferring a stock from a straw skep I drove the bees into a frame-hive, giving them ten frames with excluder-zinc on top. I missed the queen in driving, but found her on the ground, and at once picked her up with a piece of grass and ran her into the frame-hive. When I got queen safely in I stopped driving, and put the skep on top of frames above excluder-zinc. I now find no queen below, but one in straw skep above. I also find eggs in shallow frames above excluder. 1. Would this be a young queen, and would she be fertilised, seeing that the excluder would prevent her from flying out? 2. Would it be possible for her to mate with drones in super? I have now removed the excluder-zinc, and ask, if not fertilised before, would she fly a month after hatching for mating purposes?—J. PRICE.

REPLY.—The danger of keeping queens below after driving by using excluder-zinc is clearly pointed out in the "Guide Book," and your case is only another illustration of the risk incurred in following out that plan. We therefore reply:—1. The natural inference is that the bees passed through the excluder into skep to look after the brood, and the old queen, being thus deserted, was left below to perish from cold and hunger. 2. There is just the possibility that the queen now in skep is the old queen after all, and that she has been able to pass up and regain the skep through some misfitting in excluder-zinc. This will be proved by noting whether normal worker-brood is being hatched in the combs above frame-hive. If it is a virgin queen she will be a drone-breeder.

[2675.] *Bees and Formic Acid.*—Reading to-day in the B.J. (page 231) that the bees put a drop of formic acid into every cell they fill with nectar in order to make the honey keep well, it occurred to me that some honey which I extracted yesterday from frames, a few of the cells of which were not quite full, would not very likely keep good for long. Is this

the case, and, if so, is there any way in which I can rectify this error? The honey appears rather too thin and light. It may interest you to know that I have had four or five hives for four years, and have so managed that I have never had a swarm, and, so far, have been very successful with regard to surplus honey. With many thanks for the interesting and valuable information and help contained each week in your journal.—G. TRAVERS BIGGS, *Bath, June* 13.

REPLY.—If the honey when extracted was found to be of good consistency, *i.e.*, what is called "thick honey," it will keep well, notwithstanding the absence of the special "drop" of formic acid supposed to be added by bees as a final touch before sealing the cell over.

[2676.] *Bees Transferring Themselves.*—I have just transferred a stock of bees from skep to a frame-hive according to your instructions in "Guide Book." I had it on the top bars nearly five weeks before the bees transferred their brood-nest below, but they have now been down about a week. A plain square box, about 10 in. deep, was attached and fastened to the skep, and it was as much as I could do to lift it on the hive. The weight could not have been less than ½ cwt. when put on. 1. The question now is, how long should I leave it on the hive to allow all brood to be hatched out? 2. When that time has expired, shall I take it away a good distance from the present hive and allow the bees that may be in it to join the others; then see what value is in the empty skep after the bees have left it? 3. If the ten frames in new hive are worked out with plenty of bees and brood, shall I put on a section-rack? 4. Kindly advise me also how *best* to act as to water for bees? I sometimes question whether they need it at all, at least from their owners. When you gave the illustration of "Abbott's" water-fountain I made one, and placed it quite convenient to bees, but I have never seen them using it.—F. J., *Mountmellick.*

REPLY.—1. Twenty-one days after queen ceased ovipositing in upper hive all brood (except drones, if any) will be hatched out. 2. Either that or leave on as a super and remove at end of harvest. 3. Yes, if honey is coming in. 4. If natural sources of supply are available it is waste of time and money to provide water-troughs for bees.

[2677.] *Starting Bee-keeping—Transferring from Skeps to Frame-hives.*—I am a beginner in bee-keeping, and have just begun to take the B.B.J., which I find very helpful. May I trouble you for a little information under the following circumstances:—About five weeks ago I purchased two stocks of bees in straw skeps. I was told when purchasing that they were last year's swarms, and that the bees would be sure to swarm in a few days, the hives being so crowded, and the bees having been busy for some time past. I brought the skeps home, and placed one of them above the top bars of a frame-hive and closed up the entrance of the skep, so that the bees were compelled to pass through a hole in the quilt (made for the purpose) and down through the frames, and thus work through the entrance of the lower hive only. 1. Was I right in so doing? 2. If so, shall I be able to take the straw skep off this season? If so, when? The other skep I put on a stand, and have been expecting the bees to swarm ever since, but up to now they have not done so. The hive is in a very crowded condition, the bees clustering in the entrance and under the stand, except during the hottest part of the day, when they go off to work. They hang outside all night, for I have seen them clustered after 11 p.m. 3. Do you think the queen was destroyed in moving the hives? And, if so, what will be the best thing to do with them under the circumstances? Shall I unite the bees to another swarm?—G. S., *Hardington.*

REPLY.—1. Yes, quite right. 2. If the season continues favourable, the bees will probably fill the skeps with honey if left on, and it may be removed when income begins to fail—as a super. 3. The best course would be to deal with the skep as in the first case. You would then keep the bees profitably employed instead of their wasting time as stated.

[2678.] *Bees Re-queening Themselves.*—1. Will you kindly help me with advice regarding one of my stocks? It was wintered on seven frames, and I added two others in May. The bees then seemed all right, with plenty of brood in the combs. On June 7 I added another frame, which made up the ten the hive holds. I also put on a rack of sections, although I could see very little brood at the time other than that which was sealed. I examined the hive again on June 15 and found some queen-cells sealed over, I also noticed drone-brood in worker-cells scattered all over the combs. This makes me fear the bees are queenless. I also suspect foul brood, and am sending a piece of comb for your opinion, and ask, if diseased, are the bees worth saving, or should I destroy them? The stock is strong in bees, which latter have already entered sections and are working in them. The queen, I may say, was an old one. I always keep naphthaline in hives and medicate all syrup for feeding up in autumn as per "Guide Book." 2. If slightly diseased, would it be safe to let them go for a bit?—R. MEADOWCROFTS, *Berks, June* 17.

REPLY:—1. There is just a suspicion of disease in one or two of the larvæ in comb, but it is in the incipient stage. If the sealed queen-cells noticed on the 15th inst. produce a queen and the latter is successfully mated, the stock may recover and be all right later on. 2. We thould therefore leave it to store surplus while honey is to be had and carefully watch how the brood hatches out.

Bee Shows to Come.

June 26 to July 1, at Cardiff.—"Royal" Agricultural Society's Show. Bee and Honey Section under management of the B.B.K.A. **Entries closed.**

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries closed.**

July 24, at Broughton, Hants.—Broughton Flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries close July 11.**

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society. Schedules from Hon. Sec., Mr. E. C. S. Stow, Hessle, Hull. **Entries close August 1.**

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes**: one for single 1-lb. jar extracted honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition. Open Classes for Bees, Hives, and Extracted Honey. Schedules from Mr. J. P. Phillips, Spetchley, Worcester, Acting Secretary W.B.K.A. **Entries close August 1.**

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers.**

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

WHITFIELD (W. Hartlepool).—*List of Bee-Books.*—1. There are no printed "lists" such as you mention to be had. Besides, the demand for out-of-date bee-books being limited to the very few who are collectors, it is hardly worth while occupying space with such a list, even if available. 2. If you desire to try American methods of bee-keeping, and the various sizes of frames used by American bee-keepers, it would be well to procure a copy of the "A.B.C. of Bee Culture," published by the A. I. Root Co., Medina, Ohio, U.S.A. This work gives all the particulars you ask for.

ADAM ASHBY.—*Moving Bees in Hollow Trees.*—By referring to B.B.J. of March 21 last (page 115) you will see an illustration from nature of a couple of tree trunks (in each of which is at present located a colony of bees) cut from the tree in which the bees had established themselves before removal to the present owner's apiary. This will serve as reply to your query.

H. WILLIAMS (Treslan).—*Starting Bee-keeping. Sowing Seeds for Bee-forage.*—It is almost a waste of time and money to sow seeds in your own garden for the bees you are proposing to keep. They will have to search the fields and pastures around you for what honey they gather. What is really needed before starting bee-keeping is a reliable guide-book on bees. Without such you cannot hope to succeed.

"YOKEL" (Somerset).—*Vicious Bees.*—There is no other way of ridding an apiary of an incurably vicious stock than by destroying the queen and giving one of a quiet strain (Carniolan, for example). If unable to tackle the task of removing queen, you should suffocate the colony with sulphur fumes after removing the surplus honey now on the hive.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

"HILPERTON" (Berks).—Comb is affected with "F.B.," not of virulent type. The stock is apparently weak, and the bees lack the needful vitality which would enable them to resist infection. It is also evident that the preventives used have served to check the spread of the mischief.

G. R. WYNNE (Dolgelly).—1. No disease in comb. 2. Large cell is probably an embryo queen-cell, but by probing you have made it uncertain. The bees were (we judge) queenless, and have deserted the hive in a body.

R. OAKLEY (Hants).—Nothing worse in comb than fresh-gathered pollen. The half built-out comb has eggs in every cell not occupied with pollen.

F. T. R. (Felling).—Comb very old and black, but has no trace of brood or sign of a sealed cell in it.

CONSTANT READER (Poppleton).—Foul brood is rapidly developing in comb sent.

GLOS.—The contents of large piece of comb entirely dried up. The sealing of cells points strongly to foul brood, and as comb is infested with moth larvæ we advise burning. Small piece of comb contains honey only.

E. BLACKMORE (Devon).—There is foul brood in the hive, one cell of new comb being full of the well-known brown matter that indicates disease.

D. A. COULBURN (Lanark).—Comb is affected with foul brood.

*** *Several Letters and Queries are in type, and will appear next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

BEES.—Strong natural Swarms, in straw hives, 10s. 6d. CADMAN, Codsall Wood, Wolverhampton. G 49

GUINEA EXTRACTOR, used twice, equal new, cost 21s.; price 12s. 6d. WRIGHT, Pickering. G 43

SUPERIOR BEES.—Good SWARMS, 15s., packed free. WALTON, Honey Cott, Weston, Leamington. G 44

BEES.—Strong natural Swarm, price 10s. Box packing free. Guaranteed healthy. RUSSELL, Basket Shop, Christchurch, Hants. G 50

PURE new ENGLISH HONEY, 6½d. lb. in 56-lb. tins. Tins free; sample, 2d. E. HARDY, Oak House, Gt. Yeldham, Halstead. G 47

HONEY.—New EXTRACTED at £2 16s. per cwt. Carriage forwarded. OWEN BROWNING, The Apiary, Kingsomborne, Hants. G 51

SPLENDID NEW SECTIONS, good colour, well filled and sealed, 7s. dozen; glazed, 8s. dozen. Fine extracted Honey in bottles or tins. Offers wanted. GARNER, Dyke, Bourne.

SPLENDID NEW ENGLISH HONEY, 6½d. per lb. Sample, 2d. SWARMS, 10s. each, packed free. Cash or deposit. ALBERT COE, Apiary Hall, Ridgwell, Halstead, Essex. G 46

STRONG, healthy STOCKS BEES, covering 6, 8, or 10 combs, July, 1900, Queens, packed in Gayton Hives (Abbott's), floorboard, body, and roof, 20s., 24s., 28s.; without hives, 8s. less; 2s. 6d. refunded for travelling box when returned. CARR, Norwood-avenue, Southport. G 48

APIARY FOR SALE, comprising 13 strong STOCKS of BEES, all in bar-framed Hives, each with two crates for sections and zinc excluders; seven Super Clearers and odd bar-frame Hive, and extra Section Crates and Frames. For Sale in one lot, £1 per hive. A. GREATREX, Hatfield Broad Oak, Essex. G 45

FOR SALE, eleven strong STOCKS of PURE ITALIAN BEES, with young prolific Queens. Two of the stocks are in a "Wells" hive, six in "W.B.C." hives, and three in strong frame-hives, all in good condition and guaranteed healthy. All the hives are supered and have good weight of surplus honey ready for removal. Also large and complete outfit of Bee Appliances. Purchaser to remove before the 15th July. Apply, BRYN-COED, Crescent-road, Chingford, Essex. G 52

STRAW SKEPS, cane bound, 18s. dozen; 9s. 6d. ½ doz. ALFRED HARDING, Straw-skep Maker, Bellingdon, Chesham, Bucks. G 29

ORPINGTON EGGS, Black and Buff from handsome fowls (Cook and Partington strain), 2s. 9d. dozen. E. MIDDLEMAS, Stamford, Alnwick. G 30

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

STRONG natural SWARMS, 1900 Fertile Queen, 10s. 6d., 12s. 6d.; second ditto, 8s. 6d. Guaranteed healthy. WOODS, Normandy, Guildford. G 12

WANTED, SECTION-HONEY, best quality; 1901 season. Good cash price for early delivery. T. SMITH & Co., 17, Cambridge-street, London, W. G 10

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

WANTED, 500 (more or less) QUEEN BEES and QUEEN CELLS, alive or dead. State lowest price. BONNER CHAMBERS, Diptford, South Brent, S. Devon. G 40

EXPERIENCED BEE-MASTER seeks APPOINTMENT (temporary or permanent). Good hive, foundation, candy maker. Excellent references. Address, "P." *Bee Journal.* G 27

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BREREETON, Pulborough, Sussex.

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY.

CARDIFF MEETING, 1901.

The sixty-second annual show of the Royal Agricultural Society opened on Wednesday, June 26, and closed on Monday, July 1. We have seen many admirable locations on which this the most important show in the Kingdom has been held, but none have surpassed, if even equalling, the one on which this year's show was held.

The weather up to Saturday, the 29th, was beautifully fine and warm, while the triple avenue of trees—nearly a mile long—known as the "Sophia Gardens," afforded grateful shade to the thousands of visitors who reclined on the green sward enjoying the abundant room everywhere. It is very satisfactory to be able to record one of the most successful shows, so far as regards the number of visitors, in the history of the society, the number who passed the turnstiles up to Friday night being very large indeed.

For the bee and honey section of the show we have nothing but praise. The exhibits were well arranged and staged and made an exceedingly good display.

Imperative business needs in town, which brooked no delay, compelled us to leave Cardiff on Friday, and as we have no particulars regarding either Saturday's or Monday's weather, or the aggregate attendance, we this week only insert the prize list, deferring till our next issue some further comment on the show generally, along with a few notes on the more important exhibits.

Messrs. W. Broughton Carr and Henry Jonas were appointed judges and made the following awards :—

AWARDS.

Class 334. *Collection of Hives and Appliances* (5 entries).—1st, R. H. Coltman, Station-street, Burton-on-Trent; 2nd, W. P. Meadows, Syston, Leicester; 3rd, Jas. Lee & Son, 10, Silver-street, High Holborn, W.C.; v.h.c. and reserve No., J. T. Burgess & Son, 10 and 14, Guinea-street, Exeter.

Class 335. *Outfit for a Beginner in Bee-keeping, price not to exceed* £1 10s. (11 entries).—1st, Jas. Lee & Son; 2nd, J. T. Burgess & Son; 3rd, E. H. Taylor, Welwyn, Herts; h.c. and reserve No., W. P. Meadows.

Class 336. *Observatory Hive with Queen and Bees* (2 entries).—1st, Jas. Lee & Son.

Class 337. *Complete Frame Hive* (16 entries).—1st, Jas. Lee & Son; 2nd, W. P. Meadows; 3rd, J. Greenhill, 80, Graham-road, Wimbledon; reserve No., T. Lanaway & Sons, 70, Station-road, Redhill.

Class 338. *Complete Inexpensive Frame Hive for Cottager's Use* (15 entries).—1st, W. P. Meadows; 2nd, Jas. Lee & Son; 3rd, E. H. Taylor; h.c. and reserve No, J. T. Burgess & Son; h.c., W. P. Meadows; c., R. H. Coltman.

Class 339. *Honey Extractor* (11 entries).—1st, W. P. Meadows; 2nd, E. H. Taylor; h.c. and reserve No, J. T. Burgess & Son; h.c., W. P. Meadows.

Class 340. *Useful Appliance connected with Bee-keeping introduced since* 1899 (6 entries).—1st, W. P. Meadows (Rymer honey-press on stand); 2nd, Jas. Lee & Son (new section-case—registered); h.c., R. Allen, Tusmore, Bicester (nucleus and makeshift hive, swarm-box, &c., combined).

Class 341. *Twelve* 1-*lb. Sections* (18 entries).—1st, W. Woodley, Beedon, Newbury; 2nd, Richd. Brown, Somersham, Hunts; 3rd, H. Seamark, Willingham, Cambs; h.c. and reserve No., J. H. Wootton, Byford, Hereford; h.c, G. H. Skevington, Northampton; and E. C. R. White, Newton Toney, Salisbury.

Class 342. *Twelve* 1-*lb. Sections of* 1899 *or any previous year* (2 entries) — 1st, W. Woodley.

Class 343. *Twelve* 1-*lb. Sections of Heather Honey, any year* (4 entries).—1st, J. P. W. Lightfoot, Pickering, Yorks; 2nd, Jas. Waddell, Wooler, Northumberland; reserve No, John Berry, Llanrwst, N Wales.

Class 344. *Three Shallow Frames of* 1901 *Honey for Extracting* (7 entries).—1st, E. C. R. White; 2nd, R. Brown; 3rd, Geo. Wells, Aylesford, Kent; reserve No., John Helme, Weobly, Hereford.

Class 345. *Twelve* 1-*lb. Jars Extracted Honey light coloured* (14 entries).—1st, Rev. E. R. Iremonger, Andover, Hants; 2nd, Thos. Blake, Broughton, Hants; 3rd, W. Woodley; h.c. and reserve No., Joseph Boyes, Lion Hotel, Cardiff; h.c., R. Brown, F. Chapman, Wells, Som, and W. G. Dear, Middle Woodford, Salisbury; c, Andrew Curnow, Marazion, Cornwall.

Class 346. *Twelve* 1-*lb. Jars Extracted medium coloured Honey, other than heather* (13 entries).—1st, Mrs. H. H. Woosnam, Newton Abbott, Devon; 2nd, G. W. Kirby, Longwell Green, Bristol; 3rd, J. H. Wootton; h.c. and reserve No., R. Brown; c., C. A. Hatchley, Oldland Hall, Willsbridge, Bristol.

Class 347. *Twelve* 1-*lb. Jars Extracted dark coloured Honey, other than heather* (2 entries).—1st, G. W. Kirby.

Class 348. *Twelve* 1-*lb. Jars Extracted Honey, of* 1900 *or any previous year* (6 entries).—1st, F. Chapman; 2nd, H. F. Beale, Andover, Hants; 3rd, J. H. Seabrooke, Longfield, Kent; h.c. and reserve No., Rev. J. R. Bradshaw, Hessay, York.

Class 349. *Twelve* 1-*lb. Jars Extracted Heather Honey* (4 entries).—1st, John Berry; 2nd, E. C. R. White; reserve No., G. W. Kirby.

Class 350. *Twelve* 1-*lb. Jars Granulated Honey, any year* (7 entries).—1st, W. Woodley; 2nd, R. Brown; 3rd, John Hookway, Wellington, Som.; reserve No., P. B. Govett, Tideford, Cornwall.

Class 351. *Display of Honey, in any form* (4 entries).—1st, R. Brown, Somersham ; 2nd, Jas. Lee & Son ; reserve No., R. H. Coltman.

Class 352. *Beeswax, not under 3 lb.* (10 entries)—1st, Mrs. H. H. Woosnam ; 2nd and 3rd, John Berry ; v.h.c. and reserve No., John Edwards, Callington, Cornwall ; c., R. Brown.

Class 353. *Beeswax, not less than 3 lb., in cakes suitable for the retail trade* (6 entries).—1st and 2nd, Jno. Berry ; 3rd, R. Brown ; h.c. and reserve No., John Edwards.

Class 354. *Honey Vinegar* (1 entry).—1st, G. W. Kirby.

Class 355. *Mead* (2 entries).—1st, L. Hill, 7, Falmouth-road, Sheffield ; 2nd, John Bradley, Stoney Stretton, Yockleton, Salop.

Class 356. *Interesting Exhibit of a Practical Nature* (2 entries).—1st, Richard Allen.

Class 357. *Interesting Exhibit of a Scientific Nature* (1 entry).—1st and 2nd, Jas. Lee & Son (cabinet of specimens illustrating bee-culture, for use in schools and by lecturers) ; reserve No., F. W. L. Sladen, Ripple Court Apiary, near Dover.

(*Conclusion of report next week.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

USE OF THE QUEEN BEE'S STING AS OVIPOSITOR.

[4408.] The writer of "My Experiences," &c. (4402, page 251), last week's issue of this journal, alludes to a statement of mine on page 67 B.B.J., 1900, to the effect that on the occasion of a queen bee laying eggs upon my hand it appeared to me to be clear that her sting was used as an ovipositor. This, he says, has always puzzled him very much, and it appears that in a similar instance of recent occurrence he failed to get a sight of the sting. I will gladly try to make my view clearer, and hope to be excused if, before doing so, I mention that for many years I have been in the habit of making careful dissections of the stings of hornets, wasps, and bees, both native and foreign, and also of the ovipositors of various insects, for purposes of comparison and for microscopical preparations, so that Major Campbell may rest assured that I was not making a mistake, and really did the sting as described.

I did not, however, see the sting at the instant of laying—that is when the egg itself protruded. The queen had been in my pocket in a little box for some hour and a-half, so that she was not in the usual condition of a laying queen. It was for this reason, perhaps, that in the intervals between the emission of eggs she had a kind of spasmodic action, when the cavity of the passage to the ovary opened wide two or three times before laying. It was then that, *holding the queen on the level of my eyes*, I could see the sting working backwards and forwards, together with the adjoining parts. It did not protrude beyond the last section of the abdomen ; but the thought at once struck me that, curving as it did, it could not fail to grip and govern the movement of the posterior end of the egg, and so affect its deposition. I was able to view the interior cavity with a platyscopic lens of good working focus.

It must not be expected that every queen observed will lay in the same fashion, even under normal conditions ; nor will the same queen always lay in her usual manner. Every now and then she may remain with her abdomen hidden in the cell for much longer than usual, and it is quite possible that on these occasions the spasmodic action may be occurring. Be that as it may, the unwilling emission of an egg on to a person's hand is a very different matter from carefully depositing and fixing it at the bottom of a cell. In the former case I should not in the least expect to see the sting in use ; in the latter I might hope to do so, although it seems to me that even in deposition the extrusion of the sting may be unnecessary. The matter may be cleared up any day, for I have only just missed seeing a queen laying in cells built against the glass of my observatory hive this season.

Touching the flight of swarms and the point raised by Major Campbell, would it not be reasonable to conclude that its nature is governed by that of the country ? Round about me there are hills, woods, and many hedgerow trees, and swarms fly high. Most bee-keepers have heard and seen swarms sailing away over their heads, and in the days when body and spirit still made a decent pair I have raced straight across country over them, but never did I see runaway swarms flying low in my neighbourhood.

While swarms are still frequent, it may be worth while to relate how I dealt with one which had settled on the outer branches of a rather tall horse-chestnut tree where the boughs would not bear a ladder. Wondering how I could shift them, it occurred to me that something might be done with my son's 28-bore gun, which sends a small charge of shot very close, and that I ought to be able to cut through any twigs or small boughs with it. So presently I took a shot at a small out cluster, aiming at the very base of the long leaf-stalk, and to my joy down came the leaf and the bees. These joined the main cluster, which was on the end of a thickish bough, and this I had sawed through from the inside of the tree, and pushed out so that it slipped

down to a point where a 17-ft. bamboo could bring it gently to the ground, carrying some bees with it. Not, however, the queen; so most of the bees went aloft again. Every time a cluster formed, off came the twig, and in a little while the swarm got so disheartened that it broke up and went back to its hive. Probably the old queen got lost, for a few days later the colony swarmed again under a virgin queen. It was amusing to see how soon the bees adapted themselves to what they probably looked on as an eccentricity in vegetation; for after the first few shots the cluster did not tumble with the leaf, but seemed to explode at the shock which severed the leaf-stalk.—South Devon Enthusiast.

PREVENTION OF SWARMING.

A PROLIFIC QUEEN.

[4409.] I was much interested in Mr. Rymer's plan for the prevention of swarming (*vide* B.J. of November 1 last, page 430), viz., giving an extra brood-chamber with whole sheets of foundation, and determined to give it a trial. For this purpose I chose my strongest stock, and on May 3 I gave them a body-box containing ten frames fitted with whole sheets of foundation. On May 16 I placed above the latter a rack of sections, a few of which had worked-out combs with honey, as "bait sections." I was therefore considerably surprised when on June 15 this hive swarmed. On examining the combs to cut out queen-cells I found the sections practically untouched since I put them on, but the twenty brood-frames underneath were really an extraordinary sight—one solid mass of brood—so much so that I carefully went over each frame and found the cells in every one packed with brood on both sides, except one which contained brood on one side only. I am inclined to think that either this is a very unusual season or that I possess an unusually prolific queen, perhaps a little of both; but on looking up the history of this particular queen, I think she must be rather out of the common. She is the daughter of a Carniolan-Italian hybrid queen, and was hatched on June 12, 1900. On July 23 the colony of which she was the head swarmed, when the queen was only six weeks old, greatly to my surprise. I noted at the time what an immense quantity of brood she had produced since she began to lay.

This year, on June 15, the colony swarmed, as already stated, and after cutting out all queen-cells I returned the swarm and put a second rack of sections on. To-day (June 28) the stock swarmed again—a huge swarm—though the sections are still untouched; only a very few of them are drawn out. I removed some of the frames with queen-cells to raise young queens from, and then returned the swarm once more. I wonder if other bee-keepers have noticed what unusual quantities of brood are being raised this year? As a rule, in my case the two outside frames at least are used as store combs, but this year they are solid masses of brood, and yet no honey is going into sections worth speaking of. I have not a single section sealed over.—C. H. Lowe, *Rylstone Rectory, Yorks, June* 28.

ANTS AND BEES.

[4410.] While at Vulpéra on June 11, I noticed on a mountain footpath a smallish black bee, which from its appearance I took to be rather young and of somewhat immature experience of the ways of the world in which she was destined to work. It was weighted with only a small load of pollen, quite an insufficient reason for preferring to crawl on the ground rather than to fly in the sunlit air. There was another observer besides myself, and this was one of the smaller of the numerous ants infesting the path. Master ant no sooner espied such a toothsome morsel of winter meat than quickly moving forward he, single-handed, attached himself to the back of the bee and, bending over, fixed his jaws in the under surface of his quarry's thorax. The bee continued to crawl forward for a short distance, vainly trying to shake off his foe. Finding this impossible, she rolled over on to her back in order to use her sting to advantage. Thus constantly flexing her abdomen and protruding her sting in a futile endeavour to puncture the ant, the position of whose attachment rendered this impossible. In three minutes the bee was dead or paralysed, for, with the exception of an occasional spasmodic movement, no sign of life was given. Another ant, seeing the conflict, came into the fray and attached himself to the protruded sting of the bee, holding on to which he dragged off the bee with his friend still hanging on to the thorax. I left them still at work removing their catch to the colony's winter store-house. Whatever the relations of English bees and English ants may be, I had observed an object lesson in the position of their Alpine relatives.—L. P., *Leamington Spa, June* 29.

DEALING WITH FOUL BROOD.

BI-SULPHIDE OF CARBON AS A REMEDY.

[4411.] Bee-keeping with me being a continuous struggle with foul brood, it has at times been necessary to destroy a colony completely, bees and all. At first sight it does not seem to be an easy thing to do this, the usual method being either to lift a movable body box on to burning sulphur—not a light job—or to shake the bees into a skep, and then treating them with sulphur, with the risk of scattering foul-brood spores all around from shaking the combs. For the benefit of any unfortunates who may be in a similar plight. I venture to describe a simple method of destroying the bees in a short time without

any disturbance:—Close the doors, separate two frames, and push between them a little tow, cotton wool, or shavings, on this pour a tablespoonful of bi-sulphide of carbon, drop a lighted match on the tow, and immediately cover up with the quilt. The unfortunate bees will be dead in less than a minute. When the light is applied there is a slight explosion, but nothing alarming, only care must be taken to hold one's head away from the top of the hive. Care must also be taken not to expose the stock of bi-sulphide to a flame, as it is very inflammable.—MARK FARRANT, JUN., *Exeter, June* 29.

UNFAIR EXHIBITING.

A PROTEST.

[4412.] May I be allowed in my own name and that of several other appliance-makers and dealers to strongly protest against the awards in the class for collection of appliances at the Royal Show, Cardiff. We do this without reflecting discredit on the part of the judges, but on the first prize exhibit I failed to see a single original idea. All were bad imitations of other makers' productions. My extractors were much to the front. Machines that I have worked upon for twenty years, and year by year improved were shown without a blush. Many other appliances on the same lines looked as though original articles, but had been bought for *copying purposes* only. I call this dishonest in the highest degree and discreditable in every way. It is to be hoped our judges, and buyers of appliances, will award honours or credit where deserved. It is, to say the least, a bit too bad to have to take second place to another whose goods have been designed and perfected by oneself, and of which the first prize taker has had no hand in designing. I ask, Is this the right way to secure his honours?

Let the best goods win by all means, but not after the above fashion.—W. P. MEADOWS, *Syston, Cardiff, June* 29.

BEES TRANSFERRING THEMSELVES.

[4413.] On May 20 I placed a very full skep of bees above the frames of a frame-hive, all with foundation and several of the combs fully worked out. On June 25 the bees showed signs of a desire to swarm, so having ascertained that several frames in lower hive were crowded with bees I placed a box of shallow frames under the body-box of lower hive at 11 a.m., and at 7 p.m. I drove the bees from the skep, which latter was full of honey. A little brood was still left on the five central combs, but no unsealed larvæ. I did not observe the queen during the "drive" or the subsequent return to the hive, and only saw one drone. The body-box was teeming with brood in all stages, and doubtless the queen was among the combs. I put on a rack of sections, and poured out the bees from the skep in front of their old home, into which they ran eagerly, to find it enlarged top and bottom, with ample storerooms as well as nurseries provided. This morning (26th) the bees seem quite happy and comfortable. I am now therefore able to give myself and others an answer to the two questions asked in your issue of June 6 [2654], viz.: 1. In May or June, about five weeks; 2. Then drive skep, returning the bees, and put on sections or shallow-frames.

I am much struck this year by the splendid work done hitherto by swarms, which are needing supers much quicker than usual. One man brought me a swarm which had come out on May 21 at 1 p.m. and had remained unhived through the night until nine the next morning. Of course, many bees had gone back to their old home in the evening, and when they were hived scarcely four frames were covered. Three or four days later I found to my surprise the whole ten fully occupied. They must have sent messengers to their friends at home (one mile off) who had come out with them and returned, saying what a nice house they had got, and inviting them to join them. They are now in full work upstairs. I have seen very few drones about this season.—C. C. JAMES, *Wortham Rectory, Diss, June* 26.

A RECORD (?) BOX OF SHALLOW-FRAMES.

[4414.] I do not know whether you will be justified in heading this letter as above, but if any of your readers have ever taken off a heavier box of shallow-frames than the one mentioned below, I should be glad if he or she will send weights for publication:—Gross weight of box, 47 lb.; weight of box and frames after extracting, 9¼ lb.; net weight of honey, 37¾ lb. The heaviest comb weighed 6½ lb., and the box was an ordinary-sized one, containing eight wide shallow frames.—S. P., SOAL, *Stambridge Apiary, Rochford, Essex, June* 28.

(*Correspondence continued on page* 266.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS

Mr. Doubtfire, whose bee-garden is seen on next page, is another reader whose experience goes to show that a big weight of honey can (at times) be taken from a hive not a long way from London. For the rest, the "notes" sent are so interesting and all-sufficient as to need no addition from us. He says:—

"In reply to your request for some particulars to go with my bee-garden picture, I am afraid I have nothing very remarkable or much worth relating.

"My apiary is situated at the bottom of a garden in what is considered a poor district, in

he midst of a population of about 6,000. My first introduction to bee-keeping took place about five years ago when visiting a friend, a bee-keeper at Croxley Green, Rickmansworth. It was not long, however, after my visit when I found I had an attack of bee fever, and very soon became the possessor of a stock through the medium of above friend, to whom I am very much indebted for sound practical advice and assistance during my infancy in the craft. So, having made a beginning, and finding no "*rosemary* growing in our garden," I have been allowed my own sweet way, and am now the happy possessor of eight stocks, with several other hives for contingencies. Seven of the above stocks are fairly 'bubbling over' with bees, the eighth being a cast of last year which I had from a friend. My best take of honey from one hive was 120 lb. of 'extracted' last season from an artificial swarm of the previous year. This swarm deposed the old queen soon after they got established, and the young queen getting mated successfully, the colony became very strong early in the autumn. Above stock was in a hive of my own construction and is marked No. 10. Hive No. 12 is a fancy one I had made to exhibit at the flower-show in the adjoining village of Wembley. The bees, being shown working, created a deal of interest. It contains an artificial swarm made on June 20 last year, and the bees are well at work in the shallow frames, which, I find, are always taken to in preference to sections; so I have to place *sections under shallow-frames* when more storage room is required.

"I am by occupation a collector, regularly doing eighteen to twenty miles daily, but manage to find time during the evenings to make some of my hives, section-racks and shallow-frames, crates, &c., besides giving a helping hand to less experienced bee-keepers, several of whom I have started in the craft.

"I find a good deal of ignorance exists amongst bee-keepers of the skeppist class. I was introduced to one a couple of weeks ago who has kept bees for forty years. I found three out of his six skeps overflowing with bees, and on my offering to make artificial swarms from them, was promptly told he 'would have no new-fangled dodges worked on his bees; when they were ready they would swarm themselves.' To-day (June 18) I have again seen the old gentleman, and hear that the bees have swarmed—*and gone!*

"Now, as regards the picture. The figure resting on the hive is your 'humble.' The other one is my son, aged fourteen, an ardent little bee-keeper, owner of one stock (not seen in the picture), and great is our pleasure after business is over to sit amongst our little favourites, apart from the profit they bring. I may say that I experience no difficulty in disposing of the produce at 10d. and 1s. per lb. section or 1-lb. jar of honey.

MR. F. DOUBTFIRE'S APIARY, WEALDSTONE, MIDDLESEX.

"In conclusion, I may mention that the photo sent you is my own work, except making the exposure, which was kindly done by a neighbour's son, an amateur.

"Wishing you every success (and your chatty little journal deserves it) and all brother bee-keepers a prosperous season."

CORRESPONDENCE.

(*Continued from page* 264.)

BEES IN WALES.

[4415.] Early swarms were conspicuous by their absence here this season, owing to the unfavourable weather. High winds, cold rains, and frosty nights kept them backwards during the month of May. But now the weather is more settled, and the bees are swarming with vengeance. June 28 was a record day in this respect. The hurly-burly began early in the morning, and continued until the afternoon was far advanced. Old dames with their heads in aprons hurried forth to the scene of action, beating tom-toms as hard as they could. My own apiary, which is in the centre of our village, was surrounded with onlookers, drawn there by the three swarms that issued in the forenoon in quick succession. When the last was hived I thought that my labour was over, but not so. A couple of swarms from an adjacent garden decamped, and flew over my head at the time. My third swarm got restless, one half joined the rebels, and the other half settled on a rhubarb stalk; it is a mere handful, but possessing a fine young queen, will they survive?—J. B. Williams, *Gelli Lydan, Merioneth, June* 29.

ESSEX BEE-KEEPERS' ASSOCIATION.

BEE DEMONSTRATIONS AT CHINGFORD.

[4416.] Mr. W. Herrod, the B.B.K.A. Expert and Lecturer at Swanley Horticultural College, has been engaged by the Essex County Council to give lectures and demonstrations in the bee-tent at Chingford on the afternoon of Saturday next, July 6, on the occasion of the local flower show. In connection with the latter there are several classes for honey open to the county.—J. W. Sheppard, *Hon. Sec. Essex B.K.A., Chingford, June* 26.

FAULTY FRAMES.

[4417.] I had to-day the most unpleasant experience which has fallen to my lot since I commenced bee-keeping in 1898. I wished to remove a standard frame from the body box of a hive which was my new one for last season. On commencing to lift out the end frame on the left hand side I noticed that the top bar was coming away from the rest of the frame. I ceased trying to withdraw that one, and essayed the end right-hand frame. I had partly removed it when the top bar parted clean away from the uprights, with a result which was good neither for my temper nor that of the bees. Of course old hands will say, "Serve you right for not seeing that your frames are nailed together;" but never having seen such an accident alluded to I thought the experience might be worth recording for the sake of other beginners.—Ian Anderson, *Coventry, June* 27.

WEATHER REPORT.

Westbourne, Sussex,

June, 1901.

Rainfall, 3·91 in.	Sunless Days, 1.
Heaviest fall, 1·87 in., on 30th.	Above average, 32·3 hours.
Rain fell on 10 days.	Mean Maximum, 62°.
Above average, 2·02 in.	Mean Minimum, 45·4°.
Maximum Temperature, 79°, on 29th.	Mean Temperature, 53·7°.
Minimum Temperature, 40°, on 20th.	Below average, 4°.
Minimum on Grass, 0.	Maximum Barometer, 30·57°, on 25th.
Frosty Nights, 0.	Minimum Barometer, 29·73°, on 14th.
Sunshine, 259·7 hrs.	
Brightest Day, 27th, 14·5 hours.	

L. B. Birkett.

Queries and Replies.

[2679.] "*Fasting*" *Bees for Curative Purposes.*—A strong stock of bees, recently bought, was found to be affected with foul brood. The bees were then transferred to a skep, tied up with coarse canvas, and fasted for forty-eight hours. On proceeding to put them into a clean hive prepared with comb-foundation, the bees were found to be dead! You will greatly oblige by saying, in the next issue of your valuable paper, the cause of death.—F. S., *Warwickshire, July* 1.

Reply.—We can only attribute the disaster to some want of care or forethought on the part of the operator. The particulars furnished are too brief and scanty for us to tell from a distance what has caused the death of bees. On the spot, and with full knowledge of all that took place, we could probably say in a moment what was wrong, but not otherwise. Here is the intelligent or practical view of the position, which you can, no doubt, apply to your own case:—Bee-keepers know that bees driven from a skep which contains food can be "fasted" for forty-eight hours without harm, because the bees, when alarmed by the operation of "driving," immediately fill their honey sacs with food, as they do before swarming but bees with empty stomachs when put

into a skep will not live for two days if there is no food within reach. And so the bee-keeper—in such a case as yours might be—should take these things into account and keep a look out, so that if a few bees begin to drop from the bulk as they hang in skep he knows what it means, and shortens the hours of "fasting" to save the bees' lives, and so avoid death by starvation. In your brief query is involved an important point in bee-keeping which all should bear in mind, viz, that most operations require to be carried out intelligently, and not by "rule of thumb," or they may miscarry. Hence this long reply.

[2680.] *Swarm Refusing to Stay in Hive.*—I should be very much obliged if you would give me the reason for the following occurrence:—On June 4 I secured a large swarm which had issued from one of my hives. The bees worked on the comb-foundation till the following Sunday morning, when they suddenly took wing and deserted the hive. I secured them again after clustering, and put the skep in a shady place; but after three-quarters of an hour the queen and the whole swarm came out and flew off far away. I had previously given more room in the hive, as two days after they had been put in, a great many came out and clustered on a tree near, but by no means the whole swarm. I returned them again to the hive. I may say also that the skep used on the Sunday was not "dressed." I am therefore anxious to know why the bees left the hive on the Sunday, and deserted the skep very soon after they were secured. The hive stood in a very exposed and hot part of my garden. I can find no explanation in the "Guide Book," so presume it must have been a somewhat exceptional occurrence.—M. D. Hill, *Windsor, June 25.*

Reply.—On the face of it there appears to have been something objectionable in the skep or the hive into which the swarm was hived. Such things, however, are very rare in the hands of experienced bee-keepers, and as only those on the spot could form a really safe opinion on the cause of bees deserting, we must take refuge in the truism, "Bees do nothing invariably," as our reply.

[2681.] *Removing Queen-Cells to Stop Swarming.*—Would you kindly answer the following through your valuable journal?—1. On examining one of my hives, two days before last Bank holiday, I found several queen-cells, and also plenty of unsealed brood apparently five or six days old, but none younger. Some of the queen-cells were sealed, others unsealed. Thinking that the bees were about to swarm, I cut all the cells out in order to prevent them. On looking at the hive again on Bank holiday, I found more queen-cells formed, and so searched for the queen, but finding none, I then thought they were raising a successor, and just let things go on; but I do not think the hive had swarmed, seeing there were so many bees. However, I examined the hive again on June 24, and found a queen, also a patch of worker-brood, as well as some drone-brood. 2. Do you think there is a young queen in the hive, or is the old one still there, seeing that there are drone-eggs? I am given to understand that a young queen lays only worker-eggs up to eleven months old. By replying, you will oblige a beginner.—E. D., *Devonport, June 29.*

Reply.—1. You may take it for granted that the old queen has been either accidentally killed by some one while manipulating the frames or deposed by the bees themselves for reasons of their own. You must be wrong, however, with regard to age of larvæ in the hive after removal of the first lot of queen-cells, seeing that the larva is only fed for five days before being sealed over, while it needs special feeding and food (*i.e.* "Royal jelly") to transform the worker larva into a queen-bee. Presupposing then that a young queen was raised and safely mated she would not begin breeding drones in a few days after being fertilised. 2. Keep a look out to see how brood-rearing goes on, and if anything abnormal follows, such as drone-brood appearing as stated, let us know and we will advise you further.

[2682.] *Swarm Returning to Parent Hive.*—A neighbour's hive swarmed yesterday (June 26); the bees never settled (or "clustered"), but returned to the parent hive in about ten minutes. To-day the queen, sent herein, was found on the ground below the hive swarmed from. The owner wishes me to ask you to report on age of queen and probable cause of her inability to fly or head the swarm.—Jas. Waddell, Hon. Sec. N.D.B.K.A., *Wooler, June 27.*

Reply.—The dead queen sent has either been crushed in handling after she was found dead, or else the damage occurred during life by being trod under foot in some way. In any case, the evidence seems plain that death has been the result of some accident, for the abdomen is all out of shape, and no doubt the internal organs are ruptured.

[2683.] *The Difficulties of Queen-Rearing.*—Will you kindly help me in the following difficulty with regard to queen-rearing? I removed a queen from a strong stock on May 25 in order to rear some young queens. The result was I had seven or eight queen-cells capped over on the eighth day after removing the queen. Wishing to re-queen two other of my hives, I removed the queens and inserted a queen-cell in each, protecting the same by means of a pipe-cover queen-cage. On the fourteenth day the queens hatched out and were respectively liberated. The bees took to them kindly, as I noticed very particularly at the time. On June 21 I examined the above hives, but found neither brood nor eggs in the combs. Consequently I thought both stocks were queenless, and

gave each of them eggs and brood from other stocks; but on looking at them on the 27th ult. I did not find any queen-cells formed; all I found was the brood-frames well filled with honey.—A. THORPE, *Wistaston, Crewe, July 1.*

REPLY.—If your dates are correct, the young queens would, in the ordinary course, have been laying by June 21; but since no attempt was made to build queen-cells, it seems probable that "mating" has been delayed somewhat. Examine the combs again carefully, and let us know result. We shall be surprised if eggs and brood are not found by the time these lines are in print.

Echoes from the Hives.

Wooler, Northumberland, June 27.—Mr. Woodley's suggestion on page 242 that "reports from various districts be sent weekly to our Editors" seems really a practical one, and would give a fair idea of the honey crop of the whole kingdom for 1901. Honey has been coming in rapidly here during the last six days, and bees are now storing well in sections. Swarming also is becoming more general now in various apiaries round about. I have had none myself so far, owing to checking same as far as possible. White clover and wild thyme are now fairly well forward, both being well visited by the bees, therefore the prospect for a fairly good bee-keepers' season seems to be in store for all.—JAS. WADDELL, Secretary N. & D. B. K. A.

Bee Shows to Come.

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries closed.**

July 24, at Broughton, Hants.—Broughton Flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries close July 11.**

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 5 (Bank Holiday) at Lichfield.—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Open Classes for Light and Dark Honey and Wax. Two classes for members of the Staffs. B.K.A. and two open classes for Cottagers. Medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society. Schedules from Hon. Sec., Mr. E. C. S. Stow, Hessle, Hull. **Entries close August 1.**

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes**; one for single 1-lb. jar extracted honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition. Open Classes for Bees, Hives, and Extracted Honey. Schedules from Mr. J. P. Phillips, Spetchley, Worcester, Acting Secretary W.B.K.A. **Entries close August 1.**

August 8, at Foys Chetnole.—Yetminster and District B.K.A. Annual Show of Bees, Honey, and Beeswax. Thirteen classes (including three open classes). Entry free for single 1-lb. section, 1-lb. jar extracted honey. Schedules from G. Leeding, Bradford Abbas, Sherborne, Dorset. **Entries close August 3.**

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (N. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 27 and 28 at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th)

Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

DONALD MCGEACHY (Oban, N.B.). — *The Profits of Bee-keeping.*—While fully appreciating your well-meant desire to assist neighbours who are desirous of becoming bee-keepers, we strongly advise you not to be led into making calculations for them as to "how much profit can be got from a stock of bees in a year." To do so is altogether misleading, seeing that so much depends on the *district* and *season* and the bee-man himself. Let them read what others have done and judge for themselves. Above all, make it clear that your neighbour's idea of "taking away all honey gathered by the bees and giving them sugar for food in return" is rank folly and will not pay.

E. J. D. (London, E.C.).—*Bees Refusing Foundation.*—1. There must be some cause for refusal of bees to work on the foundation while filling contiguous sections with built-out combs so readily. Send us a sample of the foundation used and we will reply further. 2. The number of sections a colony will fill from "limes" depends entirely on the weather and the lime-tree bloom.

W. C. HANNAFORD (Newton Abbot).—*Mead Making.*—We have forwarded your note to our correspondent "H. H. W.," who will probably reply direct to yourself.

F. W. CONWAY (Glos.).—*Races of Bees.*—Some of the bees sent are well-marked Ligurians; others only show very slight indications of foreign blood.

F. HARRISON (Boston, Lincs.).—*Honey for Showing.*—Sample sent is good in colour and flavour, but thin in consistency. It is also beginning to granulate, and is dull and cloudy in consequence.

J. A. H. (Linthwaite).—*Queen Cast Out.*—1. The young queen sent is fully developed. 2. The fact of the hive having sent out a swarm twelve days before your queen was cast out makes it clear that—unless a second swarm has gone off unseen—the stock will not swarm again this year.

A. NICHOLL (High Wycombe).—*Direct Queen-introduction.*—When introducing queens by this method steps should always be taken to make sure the colony is queenless; otherwise only one result can follow, viz., loss of the alien queen introduced. One of the two dead bees sent is a queen, no doubt the one you gave to the stock; the other is a worker-bee. The abdomen of the latter being crushed has misled you into thinking it was a queen.

M. BEAMISH (co. Cork).—We can see no trace of either Italian or Carniolan blood in queen sent. It has the appearance of an ordinary brown queen of the native variety.

A. BUCKNELL (Birmingham).—*Teaching Bee-keeping in Schools.*—There is no book published by the B.B.K.A. from which lessons "suited to the capacity of children may be selected." Nor are there any "appropriate charts published for illustrating such lessons." An effort was initiated some time ago by a member of the Council of the B.B.K.A., but the probability of a sufficiently large demand for such publication to justify publication seemed too remote to encourage the venture.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

T. DAWSON (Broughton-in-Furness); "SOUTH AUSTRALIA" (Tunbridge Wells); and DOUBTFUL (Stourbridge).—In above cases the samples sent are affected with foul brood.

M. HORSLEY (Nether Poppleton); GEO. H. WARD (Grange-over-Sands); and W. PERN (Basingstoke).—We find no disease in combs received.

P. BRADY (co. Wicklow).—As the sealed cells in comb are full of ripe honey only, while the unsealed ones contain only fresh pollen, we ask:—Why did you suspect disease? There is no trace of brood at all (foul or otherwise) in comb.

JOHN REECE (co. Durham).—The "white stuff" in your neighbour's sample of comb is mildewed pollen.

*** *Several Letters and Queries are in type, and will appear next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

STRONG FIRST SWARMS. Guaranteed healthy, 10s. T. HOOD, White Heather Apiary, Pickering. G 58

FINE HEATHER HONEY, 140 lb., from virgin combs. Offers. HORN, Bedale, Yorkshire. G 62

SPLENDID 1901 HONEY, in 28-lb. tins, 6½d. lb. Tins free. Sample, 2d. Cash or deposit. DUTTON, Terling, Essex. G 64

25TH YEAR.—Reliable Queens, 5s. and 3s. 9d., in introducing cage, delivered. Stocks on wired frames. ALSFORD, Expert, Blandford.

VIRGIN QUEENS, 2s. 3d. each. Three-frame Nuclei, with Virgin Queen, 9s. 6d. SNOWDEN, Westwoodside, Doncaster. G 61

WANTED, some good CLOVER HONEY, at once. Apply, ROBERT COOPER, Burrows-lane, Eccleston, near Prescot. G 56

WANTED, ½ cwt. of the best British HONEY. State price to A. TAYLOR, Lighthurst Farm, Oswaldtwistle, near Accrington.

HEALTHY STOCKS in Skeps. 1901 Queens, 9s. each; two, 17s. 6d. I am overstocked. Hybrid Cyprian Queens, 4s. each. SPEARMAN, Colesbourne, Cheltenham. G 60

NATURAL SWARMS, with 1900 Fertile Queen, 10s. 6d., 12s. 6d.; second ditto, 1901 Queens, 8s. 6d. Three-frame Nuclei, 8s. 6d. Guaranteed healthy. WOODS, Normandy. G 59

BEES.—Six Stocks from swarms; all healthy and strong, of prolific strain, in straw hives. Price from 14s. PETTIT, Member Assoc., Honey-lane, Waltham Abbey, Essex. G 53

BEE HIVES and APPLIANCES FOR SALE, cheap. Never been used. For full particulars apply, ALFRED JOHNSON, Clarence Villas, Swinton, Manchester. G 57

QUOTATIONS INVITED for ten or twelve lots of condemned Bees, to be placed on rail or delivered at Goathland Station, near Whitby, from 6th to 9th August. Rev. R. M. LAMB, Burton Pidsea Rectory, Hull. G 54

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

BEES.—Strong natural Swarms, in straw hives, 10s. 6d. CADMAN, Codsall Wood, Wolverhampton. G 49

SUPERIOR BEES.—Good SWARMS, 15s., packed free. WALTON, Honey Cott, Weston, Leamington. G 44

HONEY.—New EXTRACTED at £2 16s. per cwt. Carriage forwarded. Samples, 4 stamps. OWEN BROWNING, The Apiary, Kingsomborne, Hants. G 51

ORPINGTON EGGS, Black and Buff from handsome fowls (Cook and Partington strain), 2s. 9d. dozen. E. MIDDLEMAS, Stamford, Alnwick. G 30

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

WANTED, 500 (more or less) QUEEN BEES and QUEEN CELLS, alive or dead. State lowest price. BONNER CHAMBERS, Diptford, South Brent, S. Devon. G 40

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. EGERTON, Pulborough, Sussex.

SPLENDID NEW SECTIONS, good colour, well filled and sealed, 7s. dozen; glazed, 8s. dozen. Fine extracted Honey in bottles or tins. Offers wanted. GARNER, Dyke, Bourne.

Prepaid Advertisements (*Continued*).

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 6s.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d.; swarms, from 10s. 6d. Stocks and Nuclei, headed by any variety queen at fair prices. Customer writes:—"Received bees this morning; very highly pleased with them." Particulars of E. WOODHAM, Clavering, Newport, Essex. G 22

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2¾, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s 0d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

LANCASHIRE B.K.A.

WANTED, EXPERT for the AUTUMN TOUR (August and September), to visit all members. State salary expected and references to Mr. THOS. MOTTRAM, Mayfield, Leegate-road, Heaton Moor, Stockport.

CUMBERLAND BEE-KEEPERS' ASSOCIATION.

WANTED, an **EXPERT** to visit the members and give demonstrations throughout the county. Apply, J. VICARS, Hon. Sec. C.B.K.A., Gillbank, Boot, Cumberland.

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SECTION, plain and split top in quantity.

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NO BEE-WAY SECTIONS, & FENCE SEPARATORS. Goods arrived at London and Liverpool.

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Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY.

CARDIFF MEETING, 1901.

(*Continued from page* 262.)

After several years, during which the annual country meetings of the "Royal" have resulted in more or less of financial loss to the Society, it is gratifying to report an unqualified success at Cardiff. From the official returns now available we learn that the total attendance of visitors who passed the turnstiles from Wednesday, the 26th ult., to Monday, July 1, will compare favourably with any previous show of the Society, and stands second to the greatest attendance ever recorded, viz., that at Manchester in 1897, when the attendance reached the enormous number of 217,980. There was, however, a third "shilling day" at Manchester, at which 22,621 persons paid for admission, so that the comparative numbers for the five days at Cardiff and the same number of days at Manchester is as follows :—

	Cardiff.	Manchester.
Five-shilling day	3,155	4,547
Two half-crown days	48,808	43,891
Two shilling days.....	114,956	146,921
	166,919	195,359

The table given above compares the attendance at the two meetings so far as they correspond. The profit at Manchester was £4,074, but whether it has been more or less at Cardiff depends on outgoings and receipts not yet made known, and it is quite possible that the profit on the recent show will almost, if not quite, equal that of the "best on record."

The final country meeting of the R.A.S. will be held next year at Carlisle, after which the society enters on a new phase of its long and honourable career by taking possession of its new permanent show-ground close to London. In future years, therefore, instead of the custom hitherto followed of taking the show to the people in various parts of the kingdom, the people will be brought to the show. We trust to see the new departure result in an all-round success.

Resuming our report of the bee-department at Cardiff from last issue we may say the display of collections of Bee Appliances (Class 334) was not so imposing as at York last year—when seven collections were staged against five at Cardiff, the class was a good one as will be seen by four of the exhibits staged receiving recognition at the hands of the judges.

Class 335. *Outfit for a Beginner in Bee-Keeping.*—This was a capital class, better, we think, than any staged since "outfits" have been included in the schedule. Without going too much into details we can safely say that each and all of the exhibits that took prizes, or received recognition, contained only good, useful appliances, and were moreover excellent value at 30s.

We might, in kindness, suggest to future exhibitors the futility of staging outfits in this class that do not include a honey-extractor. So long as makers are able to include that very essential bee appliance for the 30s. (which is the price limit) those who omit doing so stand no chance whatever of a prize.

Class 336. *Observatory Hive with Queen and Bees.*—Only two exhibits were staged in this class, Messrs. Lee & Sons' fine observatory, with feeding stage and magnifying lense attached, being far and away the best. The second exhibit was passed over by the judges for obvious "faults" in make.

Class 337. *Complete Frame-Hive for General Use* (16 entries).—Although a well-filled class, this was not quite satisfactory all round. Too many of the hives had faults in construction which plainly showed that the makers are not practical bee-keepers—supers that do not cover the frame-tops, but allow bees to pass into roofs or outer cases; body-boxes in which no provision is made to keep the outside combs properly spaced from hive sides; section-boxes with hanging frames (*miscalled* the W.B.C. section-box) which are so faulty in make as to be unworkable; such hives may be *staged* at a "Royal" show, but until the makers remedy the faults they only incur trouble and expense in staging them. The winning hives, however, were all good, and some not noticed fairly so, but the exhibits were very uneven in merit taken as a whole.

Class 337. *Inexpensive Frame-Hive for Cottag r's Use* (15 entries).—A much better lot of hives, considering the price ("not to exceed 10s. 6d."), were staged here than in the previous class, Mr. Meadows' 1st prize one being both serviceable and capital value for its price. The 2nd prize hive, too, was very well made indeed, and when its slight "faults" are got rid of it will be difficult to beat. The other hives noticed were also good; indeed, we were very pleased with most of the "cheap" hives staged.

Class 388. *Honey Extractor* (11 entries).—A capital display was made here, embracing a well-made lot of extractors suitable for all tastes and pockets. We fear, however, that our best makers are going a bit too strong in their well-meant desire to introduce improvements in this indispensable appliance for the apiary. Of course, if price be no object, the bee-keeper may have a "free wheel" and "patent brake" attached to his extractor, but these are "luxuries" in a honey extractor, however essential in an up-to-date bicycle. However, Mr. Meadows wisely gives his customers the option of choosing between what is useful alongside what is ornamental by staging both forms of extractor. The machines which received awards were all very good

indeed, and the class as a whole was, we think, the best staged at the "Royal" for some years past.

Class 339. *Useful Appliance connected with Bee-keeping introduced since* 1899 (6 entries).—The Rymer honey-press on stand with which Mr. Meadows secured 1st prize is a strong and workmanlike machine, bearing evidence of complete efficiency in all its parts. To those whose "moor going" results in a few cwts. of heather honey, this machine will be invaluable, and should soon repay its cost, large as that is. The 2nd prize went to an unpretentious little item in the shape of a section-case of wood ready "glassed" on both sides, and with lace-paper edging fixed on so accurately as to ensure against disqualification on the show-bench. Before receiving the combed section of honey it is exactly similar to a newly-folded one-piece section, so that when offered to a honey consumer it is as attractive looking as it is possible to make a section of honey appear. For a "high-class honey trade" this will be a most valuable item for bee-keepers' use.

A high commend was given to what may be called a *multum in parvo* for bee-keepers. Very ingenious in combining a comb-box for use when removing and returning frames after extracting, a travelling-box for swarms; a nucleus hive, and a make-shift hive for temporarily housing a small stock of bees in.

We hope to see the "inventions" class, as this may be termed, more largely taken advantage of by bee-keepers of an inventive turn. There can be no doubt whatever of its usefulness to the whole industry, but at the same time it should be borne in mind that "simplicity" has so large a share in the value of inventions in bee-keeping that to stage an appliance, or give form to an idea worked out in the study, and not put to a practical trial beforehand, is often labour and thought thrown away.

Want of space compels us to hold over the conclusion of report till next week, when the honey classes and those for "interesting exhibits" will be dealt with.

HONEY SHOW AT ST. HELENS.

EXTENSION OF TIME FOR ENTRIES.

We are requested to state that entries for the above important show of bees, honey, and appliances will be received up to *Saturday next*. Full particulars will be found in advertisement on front page of this issue, and as many classes are "open to all," we trust that a good response may be made to the generous way in which the Royal Lancashire Agricultural Society are supporting the bee industry at their annual show. The favourable weather of the last ten days should enable Lancastrians to make a more imposing appearance at their county show than they have hitherto done.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4418.] At time of writing the present season has, with me, nearly equalled that of 1900, but the barrenness of the fields and pastures just now does not afford a hopeful prospect of a good finish for 1901. Fields which should be white with clover-bloom among the "aftermath" are sere and brown. The rain of the 1st inst. was very acceptable, but the quantity was too small to reach the roots of the plants, and a week of dry, warm weather since has again rendered the ground parched as before. The lime trees about us promise a good quantity of bloom, while an abundance of bramble bloom will help to fill the supers. Given a good soaking rain, we in this district *should have* a good finish to the honey harvest. We therefore hope and wait, but the weeks slip past; no racks of sections are filled in seven or eight days this season. I may here mention that the new "tall-shape" sections put on at the same hour as a rack of the ordinary-sized ones must be relegated to second place. The two colonies in which the trial for comparison was made were as equal as possible, while the respective queens were sisters. The first lot of ordinary sections were put on same date, and the racks on both hives were equally well filled when the second lots were given; the latter being the ordinary $4\frac{1}{4}$ by $4\frac{1}{4}$ size, the other the "tall section"—one rack of each. The result of the trial is that the second rack of $4\frac{1}{4}$ sections are already complete and taken off, and the third progressing, but the "tall sections" are not quite ready for removal, though I placed a third rack under them on Friday last. The rack of "tall sections," however, holds twenty-four as against twenty-one; this I admit, but even then the two stocks are gathering more honey in the ordinary than the *extra*ordinary sections. I also grant that it might have been *vice versâ* if the racks had been reversed (*i.e.*, put on the other colony). This point will always crop up, as no two stocks of bees will be found equal in every respect throughout a season. The "tall sections" are not removed from the hive yet, and any further comments may be deferred until I can compare the different size sections.

Insurance for Bee-keepers.—The matter of insurance has again been brought forward by Mr. Jensen's letter (4401, page 244). My idea of the risks bee-keepers require covered would be: 1. Animals injured by being stung, or which may die from the effects of bee-stings.

2. Loss of time caused to a neighbour's labourers by reason of not being able to work in close proximity to the apiary. 3. Loss of time by reason of injury (to man) from the effects of bee-stings. 4. Doctors' fees for professional attendances resulting from bee-stings. Even in these cases the chances are so remote, that probably one mishap would not happen in a lifetime. A cantankerous or jealous neighbour may, however, be able to make things uncomfortable to one's peace of mind under some circumstances if the bees are at all troublesome.

Mr. Loveday in issue of June 27 (page 254) answered Mr. Norman's query in nearly the same words I should have written myself. It is very annoying; in fact I have experienced the same thing myself; and on inquiry found that my exhibits were put under the table in the Sec.'s tent by "some one" (no one knew who); but they were not staged till next day. In my case, as in Mr. Norman's, the railway company delivered the honey to the show-people and their responsibility thus ended. No one could conscientiously blame the railway company or expect them to compensate for the neglect of the show committee. Any one who exhibits honey at shows will have losses and vexations at times, first one thing then another. Last season I had returned from one show a few dirty damaged crystallised sections, instead of my own which took first prize. At another show my whole dozen (first prize again) were stolen, and I got no compensation, although I wrote and asked the Secretary to lay the matter before his committee, offering to take a reasonable trade price; but courteous replies, though they may smooth things down, do not make good a loss. These are some of the incidents inseparable from a large experience in "showing."

Wax Moths.—The month of July is a good opportunity for capturing these pests of the apiary. I had a straw skep or two practically spoilt by them last season. They were good strong colonies, each giving a swarm and a "cast." Then (no doubt after the "cast" left) the colony being reduced in numbers, the wax-moth got in, and as a result some of the combs were completely webbed together. On clearing out the comb I found the larvæ wedged in between the seams of the straw. The fire soon settled the matter. Until recent years we had no trouble with wax-moth in our neighbourhood. The small moths which are generally around the junction of straw hive and stand or stool do no damage, but the large real wax-moth is very destructive. A few jam jars with some "wine-lees" or syrup placed out every evening and removed early in the morning before the bees start work will capture a great number of the moths. Store sections of honey in a dry, warm place; never store it in a cool, *damp larder* or *cellar* or *dairy*.—W. WOODLEY, *Beedon, Newbury.*

OOGENESIS IN APIS MELLIFICA (QUEEN).

[4419.] In the "Zoologischer Jahrbuch," xiv. (1900), Wilhelm Paulcke gives an account of his research work with special reference to the relations of epithelial cells, yolk cells, and ova. The proximal ends of the tubes contain undifferentiated nuclei embedded in a common protoplasm.

Following this region is one called the synapsis zone by the author, from the condition of the nuclear chromatin; in this region the undifferentiated nuclei, which later give rise to the cells of the follicular epithelium, are distinguishable from the primitive germ nuclei, which give rise to yolk cells and ova. The zones are not separated by any line of demarcation, so that the synapsis zone shows the beginning of a process clearly marked in the next, or zone of differentiation, the origin from the primitive germ nuclei of the yolk cells and the ova. In the next region of the tubes, by the intervention of the follicle cells, successive chambers are formed, consisting alternately of a single ovum and a group of yolk cells; it would appear that forty-eight of these nutritive cells correspond to one ovum. In regard to the fate of the nutritive cells, an important point is that for a time they increase rapidly in size, secreting food-material which is transmitted to the ovum by means of a prolongation of the ovum, which perforates the follicular wall, and so enters the yolk-cell chamber. There is, however, no gradual diminution in size of the yolk cells, for just before the eggs enter the oviduct the whole contents of the yolk-cell chamber is suddenly evacuated into the egg chamber.

The egg in consequence exhibits within its cytoplasm the degenerating remnants of the yolk cells.

In commenting upon his results, the author notes the rarity of karyokinetic figures in the zone of synapsis, in spite of the fact that active cell division is going on there. He believes that, as already indicated by others, the yolk cells divide by an amitotic process, as is generally true of actively assimilating cells.

The peculiar engulfing of the yolk-cells by the ovum he explains as necessitated by the rapid production of eggs in the queen bee. Further, he is of the same opinion as Weismann that the distinction between future yolk cells and future ova is determined by heredity, and not by differences of nutrition.

I have gleaned the above from the *Journal* of the Royal Microscopical Society (June) for the BRITISH BEE JOURNAL because it contains many interesting facts which serve to throw light upon many subjects in connection with the development of the ova, and which must therefore necessarily help us to understand some problems at least, which are daily presented to our minds.

Secondly, though I fear a considerable

number of your readers will not be able to enter into the matter, I trust that some will find it as interesting as I have, and agree with me that everything new which is published should find its way sooner or later into the BRITISH BEE JOURNAL.

R. HAMLYN-HARRIS,
F.R.M.S., F.E.S., F.Z.S., &c.

THE WINGS OF THE BEE.

[4420.] All insects who have to wing their flight far from home and seek their food over a wide tract of country have to be provided with wings equal to the required effort. Some of these creatures, as butterflies, simply flit from flower to flower, and flies as a rule cover only a very narrow area during their lifetime. Though both of these are almost constantly flitting about, the wear and tear with them is nothing like so excessive as in the case of the bee, who has to fly fast and far for its load, convey it back again a long distance, often against adverse elements, keep this up steadily all day long, and, when weather permits, all the days of its life. We would therefore naturally expect these organs would be thoroughly adapted for the severe duties they have to perform, and science reveals to us that they are so in a super-excellent degree. By their shape, texture, weight, and range, as well as by the style of movement, strength of muscle, and the speed with which they can be manipulated, they are fitted to secure the highest degree of attainment in the way of flight. Not forgetting even the grace and agility of the swallows as they wing their way through the circum-ambient air, the speed and power of birds of prey when bent on predatory attacks, and the fairy like movements I have read of the famous birds of paradise, I am inclined to give first place in winged flight to our friend the bee, and I would credit it with best realising the poetry of aerial locomotion.

Inside the hive it admirably adapts itself to a changed set of circumstances, and when not put to their proper use the wings are capable of being so adjusted as to put the insect to the least possible inconvenience, as they in no way hamper its movements in the interior of the hive or even when working in the close and confined space of a worker cell where there is little more space than the bare size of the bee's body.

Bees have four wings, the anterior pair being attached to the mesothorax, and the posterior, or hinder pair, to the metathorax. The wings of drones and queens are much like those of workers in general form, though the drones' are heavier and clumsier, while those of the queen are longer, more tapering, and in every way more graceful than those of the others. They are covered with numerous short hairs, and are all over intersected by a large number of nervures or veins, which ramify in all directions and converge into one at the point where the wings join the body.

Watch a bee as it emerges from its hive preparatory to taking flight. It takes a short race, suddenly pauses—though the pause is generally only momentary—and then flies off like a dart. It frequently makes a graceful elliptical curve as it leaves home before it heads straight and sure right for the desired goal of the foraging ground. In the momentary pause on the flight-board a marvellous change has taken place, and the bee has inflated its body with air so that the trachæ and air sacs have become so many buoys to aid its flight and assist it in winging its way through ether. The process is a most important one, and greatly aids the insect in carrying its heavy loads home. Relative to its size and weight these are really very heavy, so that without the assistance of this distension these would be more than the creature could carry.

A difference of opinion seems to prevail as to the distance bees can fly, but I think most agree that they do seldom forage further from home than about two miles. It seems a very short distance for an insect capable of flying at the rate of fifteen miles an hour, as I believe bees can; but long flights, especially when taken in rough and windy weather, soon wear out the wings of the workers, so that in the busy season they often succumb after a fortnight's hard work. We often see them worn and ragged at even an earlier stage of existence and then we may predict that the end is near, for a bee without its wings is a neuter indeed. It has been proved that a bee can move its wings 200 times in a second. If this were kept up for any length of time it becomes evident that the tear and wear must be immense, but I do not suppose it does any such thing. Owing to its buoyancy when inflated with air it can go long distances with very few waves of its wings, and another point has to be mentioned which, when combined with the above, enables it mechanically to float in the air for a considerable time without making a noticeable vibration. The posterior wing is possessed of a number of corkscrew hooklets, about twenty-three in number, and the anterior with a corresponding set, which unite the two as if they were one, and this gives a very large spread of wing to so small an insect.

The bee has a very great command over its wings, and can steer its way as it pleases, change its course almost instantaneously, and it can even fly backward with tolerable ease, speed, and accuracy.—D. M. M., *Banff, N.B.*

DEALING WITH FOUL BROOD.

BISULPHIDE OF CARBON.

[4421.] Under this head (B.J., July 4, page 263, 4411) a method is described by Mr. Farrant in which he destroys a diseased stock of bees by suffocation from the fumes

from burning carbon bisulphide. It seems obvious that when one decides to take drastic measures and to entirely destroy a diseased stock, the all-important condition to fulfil is that *every bee* in the hive shall die. If some of the bees escape, there is great risk of their conveying the infection to other hives. Now, I venture to think that Mr. Farrant's plan would fail to secure this important end. However carefully one goes to work, the operations of opening the hive, separating two frames, pushing between them a little tow or cotton-wool, pouring on this a tablespoonful of carbon bisulphide, and dropping in a lighted match, can hardly be carried out without *some* of the bees flying off. Moreover, if the hive happened to be the very usual size, a ten-framed hive, and contained its full complement of frames, the operation would be still more difficult, as in this case there could be no separation of frames to allow of the tow or wool being pushed down.

The following plan is absolutely certain to destroy every single bee in a hive:—After dark, when all the bees are home, close the entrance. Then remove all the wraps except the cotton one next the frames. If there is no cotton cover over the frames (and I know some bee-keepers are content to throw any dirty old bits of carpet over their bees), one should be put there *the day before* this operation is to be carried out. Then pour over this cotton cover about a wineglassful of a mixture of about equal parts of ether and chloroform, and immediately replace the other wraps. The liquid should be poured *across* the frames. A momentary roar from the bees, and then dead silence!

When the hive is opened, which may be done after waiting five or ten minutes, a strange sight meets the eye—every comb is absolutely cleared of bees, the latter being in a heap upon the floor-board. The hive should then be lifted off the floor-board, and the latter carried to a spot where a good hot bonfire has been previously set a-going, and the mass of dead bees shovelled into the fire. Then the frames, quilts, and all else that is to be destroyed is piled up on to the fire. The hive and all belonging to it which is not to be destroyed should be removed right away, so that no bees from other hives can get at it in the morning. The proper method of purifying the hive has often been given in the pages of this journal. I may say that on the one occasion when I carried out this deadly operation, so determined was I to run no risks that I "carbolised," scorched, and gave a coat of paint to the hive *the same night*.—G. S. Newth, *Wallington, Surrey, July* 8.

BEE NOTES FROM DERBYSHIRE.

[4422.] I often see in the B.B.J. "Echoes" from different parts of the kingdom, but never any from this part, I therefore send a few lines. My three stocks came out at spring fairly well, having had only 4 lb. of sugar prior to gooseberry-bloom coming in. The bees stored a little surplus from apple-bloom, but nothing since, except plenty of pollen. Having two hives with a mixed lot of brood-frames in, I tried Mr. Rymer's plan, putting an extra brood-box on each hive to get the bees on the new frames. They soon transferred themselves in one hive, and filled the old combs with pollen! It is crowded with bees, and they are working in a rack of sections on top. In a day or two I shall remove the top brood-box and place another rack of sections on. The queen of the other hive did not take readily to the bottom brood-box, but as it was crowded with bees, and they had built the foundation out nicely (besides having the white clover in view for July), I thought it was time to force her down, or else she would have the combs full of brood when the clover was in bloom. On June 5, finding her still in the top box, I put the frame on which she was in bottom of hive—with an excluder on to keep her there—on nine frames of comb. The top box was full of brood. I have not examined it since, but by the busy work going on now the stock is very strong.

We have had no swarms here yet, and friend Woodley says "the click of the mower is heard" in his district, as yet it has not been heard here, there being very little to cut yet except red clover and rye grass; the meadows look little better than pasture fields. A week since I could see no sign of white clover, but the rain last week has opened it out, and to-day there is a nice lot; Saturday, June 28, was the best bee-day we have had for three weeks, bees could hardly get in and out fast enough. How different on Sunday, a cold west wind! I had to stand watching ten minutes to see a bee come out at all.—Tom Sleight, *Pilsby, Derbyshire.*

UNFAIR EXHIBITING.

[4423.] Referring to the letter on page 264 in B.J. of the 4th inst., headed "A Protest," if Mr. Meadows had any grievance, why did he not enter his protest at the proper time, according to the rules of the Royal Agricultural Society. Acting on the advice of my solicitor, I do not intend discussing the matter further at present.—R. H. Coltman, *Burton-on-Trent, July* 6.

[4424.] We endorse the statements contained in Mr. Meadows' communication on page 264 as applying equally to several of our specialities, to which we have devoted much time, and spared no expense whatever in perfecting. If an exhibitor can bring himself to *pirate* the best of the ideas, and the particular specialities of *several* appliance-makers (who, we might say without egotism, are admittedly prominent in the appliance-manufacturing trade), in some instances exact

copies, in others appliances obtained in some way unknown to us complete, and who enters and exhibits them as his own, we would ask: Is it surprising that first prizes are awarded to such an exhibit? In fact, as Mr. Meadows pointed out in your issue of last week, the judges have no knowledge of the dishonourable methods adopted.

Disagreeable as the task is to us, we feel in justice to ourselves, and others interested who only wish for fair dealing, to enter a strong protest against such practices.—JAMES LEE & SON, 10, *Silver-street, High Holborn, W.C.*

[4425.] I was surprised at the tone of Mr. Meadows' letter (4412) in your last issue *re* awards for collection of appliances at the Royal Show. If Mr. Coltman's exhibit was not in order, I should have thought Mr. Meadows would have lodged an objection at the show.

Then, again, Mr. Meadows says the exhibits in the first prize collection were "all bad imitations of other makers' productions." In face of this assertion, how can he say he reflects no discredit on the judging? The judges would surely not award Mr. Coltman's exhibit the first prize unless it deserved it? I cannot help thinking that Mr. Meadows not only resents being placed second to a young and energetic manufacturer, but is also a "bad loser." He should accept defeat gracefully, and "go one better" next year. I send my name and address, and sign myself, "UNBIASSED," *Derbyshire, July 8.*

"RECORD" BOX OF SHALLOW FRAMES.

[4426.] Referring to the letter headed "A Record (?) Box of Shallow Frames" (4414, page 264), may I point out that there is nothing exceptional or remarkable in such a box as regards weight of combs. I took two boxes from a hive on June 27, containing seventeen ordinary shallow-frames (not *wide* frames), from which I extracted 68 lb. of honey.

To-day (July 8) I have taken seven more frames from the same hive, but have not extracted it.

At the end of season I will report exact weight of honey taken from this hive, the only one I am taking special note of, and not because it is the best.—F. GOODRICH, *Glebe Farm, Methwold, Norfolk, July 8.*

SOME ESSEX NOTES.

[4427.] *Ants and Bees.*—This heading (above No. 4410, page 263) reminds me that I found in a cottager's apiary this spring a very weak colony of bees in a skep which was being—I cannot say "robbed," because the food intended for the bees only to a small extent entered the hive, so I will use other words with much the same meaning, and say—prevented from *receiving* food supplied to the bees of the skep in question by a colony of ants near by. The ants were thriving on the syrup offered to the bees as food, while the bees were kept in a state of semi-starvation.

Weight of Shallow-frame Supers.—In reply to Mr. S. P. Soal (No. 4414, page 264), I may say that the only really well finished 5½ in. shallow-frame super that I have had this season (the bees having a poor time here this year) averaged 5 lb. 2 oz. each for the eight combs in the box. The frames were new, and the comb entirely of drone-size cells, so there would be little waste. By the way, Mr. Soal and myself are bee-keepers at extremities of our county—south-east and north-west.—W. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

DESTROYING BEES.

OFFENDERS PUNISHED.

[4428.] I enclose cutting from the *Lancaster Observer* of June 21, 1901. I thought it might be of interest to you and some readers of the B.J. if you cared to make use of it. Heversham is within a few miles of Lancaster.—WM. LLOYD, *Skerton, Lancaster, July 8.*

[Cutting reads as follows.—EDS.]

"At Milnthorpe Police-court on Monday, a curious case was heard of malicious damage to a hive of bees at Heversham belonging to A. Clarke, the accused being three young men named Charles Christian, Samuel Guiver, and John Shepherd. They pleaded guilty. This was the second time a similar outrage had been committed. The accused, late on the night of April 21 (a Sunday), removed the hive, carried it for nearly 700 yards, threw it over a wall, and destroyed the hive, the total loss amounting to about £3. Mr. Cartmell, solicitor, prosecuted, and highly complimented P.C. Goad for the able manner in which he had tracked the offence to prisoners. The Chairman (Mr. J. W. Weston) also complimented the policeman. Prisoners were ordered to pay Mr. Clarke £3, and fined 10s. each, expenses being also imposed. The Chairman stated that such offences were too common at night in the district, and the magistrates were determined to put them down if possible."

Queries and Replies.

[2684.] *Queen Killed and Cast-out.*—I enclose a queen bee which was cast out dead from one of my hives yesterday (Sunday) afternoon. She was introduced with a cast last year, and "clipped" shortly after. On

May 24, when the hive was examined, nine of the ten frames were found to be filled with brood (all apparently healthy), so I put on a second body-box with five frames and two broad division-boards, on the top. On June 18 I increased the frames to ten, and on the 22nd, the weather being fine, I lifted out the frames of the top box to look for brood or eggs (I did not lift out frames on the 18th). There were eggs in the lower part of two frames. Apart from these disturbances the hive was only opened slightly at the corners in the middle of the week, without smoke, to see if the bees were filling the whole of the frames. Do you think it is a case of "balling" through too much disturbance? Never since May 24 have I disturbed the lower body-box. On one of the frames in the top on Saturday there were two queen-cells formed but empty, so I tore them off. I cannot say if there is another queen in the hive, but will examine when I get a chance. The first five frames in the upper body-box are half filled with honey. I thought it quite safe to handle them in these circumstances, nor do I think I can have damaged the queen, being very careful, and her abdomen shows no traces of a crush. I, however, put the two outside frames in the middle.—JAMES ARTHUR, *Airdree, N.B., June* 24.

REPLY.—The queen sent is a fine one, and being "clipped" you can vouch for her age. An examination, however, shows that the internal organs are badly ruptured, and the injury could not help being fatal. We rather wonder at your not observing the external evidence of injury which we at once did, and the *post mortem* confirmed this. A queen in "full lay" (as it is termed) is easily damaged, and plenty of "lateral space" should be provided when lifting out frames for inspection.

[2685.] *Drone-breeding Queen.*—Will you, through the medium of the B.B.J., tell me whether the enclosed queen is an unfertilised one? I took her from a hive under the following circumstances: A friend of mine bought two stocks of bees which were delivered in September last. On being requested to examine one of the hives the bees in which were not working well, I did so on July 4, with the following results: There were plenty of natural stores, but not many bees for so large a hive as it was. I saw no worker brood, but plenty of drone ditto scattered about, which led me to the conclusion there must be a "fertile worker" there, but whilst further examining the hive I came across the enclosed queen, and resolved to get your opinion on the matter. My own idea is this: The colony in question lost its old queen when being moved last September; the bees then raised the queen now sent from eggs or brood left in the hive, but, being so late in the season, there would be no drones on the wing to fertilise her. 1. Is this so? The only difficulty I see in the above theory is, how did the bees exist so long? although my friend tells me they were noted for being a very strong lot, and that an enormous lot of honey was taken from them last year before he bought them. 2. What do you think?—J. DAVIES, *Midsomer Norton, July* 6.

REPLY.—1. The insect sent bears all the appearance of a virgin queen, hatched several months ago. The body is too hard for a *post-mortem* examination; indeed, death might have taken place a fortnight ago, it is so stiff. 2. There is nothing unusual in a small number of bees surviving since last autumn. Your friend should bear in mind that a bee's life is measured less by its "length of days" than by the amount of labour it has performed, and during the winter months the bee is in a condition of semi-hybernation.

[2686.] *Absconding Swarms.*—I am emboldened by your courteous manner of answering queries, and sound advice to those poor amateurs who are floundering along at the mercy of their bees' peculiarities, to seek a little advice myself. In this district quite a swarming fever seems to have generated, several swarms having been lost, and I am numbered among the unfortunates in this respect. Last year I failed to secure any honey owing to swarms issuing, and this year I intended to prevent the same failure, by carefully cutting out all queen-cells previous to adding the supers, after which operation I judged it to be unnecessary trouble to continue the practice after additional room was given. But the bees refused to conform to the idea, and upon examination on Thursday last to determine the reason of the falling off in numbers and their absence from the supers (which were standard frames, including two frames of bees and brood from brood-chamber, lifted to entice the bees up), I discovered a young queen on the *outside* of doubling-box, where I conclude she retired to avoid slaughter. I secured her and examined the frames below, and, as I had suspected, found about ten queen-cells in various stages of development all sealed over, and no trace of eggs or brood, except that which was capped. The bulk of the bees in the hive were composed of young ones and a great quantity of drones, from which it seems very patent to me that the old queen has swarmed, of course taking the field bees with her. I made inquiries of my neighbours, and searched the immediate vicinity, but failed either to discover their location or any news of their having clustered at all. Doubtless they have taken possession of an empty hive somewhere in the neighbourhood, but up to the present I have not heard any one confess to such an event. Moreover, I am afraid it would be of no avail even though I did discover them, for a brother craftsman has had an unpleasant experience in a similar instance, his bees swarming (a double swarm) into a neighbour's garden, who secured

the bees and refused to return them. I should be pleased, therefore, if you would advise as to the wisest course to pursue. I returned the queen I secured in a rough cage, but found her dead the next morning, upon which I inserted two of the queen-cells I had cut out, and to-day I examined the hive again and found a queen established, but as yet not mated. The bees cover about seven frames, with a fair amount of brood hatching out now, and three standard frames in the super half filled with honey. 1. Do you think I will get any honey from this stock? Most of the clover is cut, and there are not many limes and no heather. 2. Would it pay better to break it up into nuclei, or is the season too far advanced? It appears to me that since natural swarms are issuing so generally, it ought not to be too late, for there are large numbers of drones about. In a recent issue of the B.B.J. I was much interested in the conversations of Mr. Doolittle, where clipping the wings of the queen was advocated. 3. What is your opinion on the subject, and how is the operation best performed and when? I was much discouraged in my unlucky experience, for I anticipated a little return for my winter's nursing; but bee-keepers appear to be particularly subjected to Dame Fortune's fickleness.—H. STUBBS, *Stretford, July* 6.

P.S.—Another resource has presented itself to me, that of uniting it with a stock on five frames with a young mature queen just purchased, and trying to rear the virgin queen on a two-frame nucleus. Do you think this would be better?—H. S.

REPLY.—1. There is no doubt of the "top swarm" having absconded and being lost. With regard to securing honey this season, it is a pity you supered with standards instead of shallow-frames, because the chances of the bees completing the super would have been considerably greater had the smaller frame been used. Your best course will be to reduce the number of frames in body-box by removing all combs that contain very little honey and *no brood*, and such as may be chiefly filled with pollen. You will then crowd the bees into the super and as no eggs will be laid for a few days the field-bees will be able to devote themselves to honey-gathering. Only allow them three or four standard frames until such time as the daily hatching bees fill up the vacuum. The rest depends upon the honey-flow's continuance or stoppage, as the case may be. 2. No; we do not advise your dividing the colony. 3. "Clipping" queens is not favoured much in this country. The operation consists of deftly removing the main portion of one wing with a pair of sharp scissors. Any time after queens are laying is suitable.

[2687.] *Re-queening.*—1. What time should elapse after removal of fertile queen before (a) a ripe queen-cell could be given? or (b) a virgin queen be introduced? 2. In the latter case do you consider it necessary to cage virgin queen, and for how long?—LUBECA, *Chingford, July* 8.

REPLY.—1. All things being favourable, the safest course is to allow the bees to start queen-cells after removal of queen before inserting the cell. The latter need not be quite "ripe" when given to the bees. If a virgin queen is given them after they have cells sealed over, she will usually be accepted if allowed to run in at the entrance without troubling about caging at all.

Echoes from the Hives.

Market Drayton, July 7.—Bees in this district are working like Trojans. Boxes of shallow-frames on all my hives now nearly full of beautiful clover honey. Limes, too—of which we have scores of trees within half a mile—just coming into bloom, so that we are full of hope for a decent season.—F. E.

The Woodbines, St. Brelade's, Jersey, C.I., July 6.—Slight fog and heavy night dews have moistened the fields and hedgerows during the past week, and to-day I find the blackberry-bloom in splendid order. Bees are simply revelling therein, whilst the heather is bursting forth in large patches in every inaccessible spot amongst the rocks and glens, all Nature responding to the glorious heat of the midday sun. Supers are filling fast. So far I have never had a better season.—WILLIAM W. KAY.

Bee Shows to Come.

July 18 and 19, at Brigg.—Honey, Hives, and Bee Appliances in connection with the Lincolnshire Agricultural Society; Bee Department under the management of the Lincs. B.K.A. Schedules from the Hon. Sec., R. Godson, Tothill, Alford. **Entries closed.**

July 24, at Broughton, Hants.—Broughton Flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances. Full particulars in advertisements shortly. Prize schedules from Edward Bohane, Secretary, Miller Arcade, Preston. **Entries close July 13.**

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 2, at Exeter.—Annual Show of the Devon B.K.A., in conjunction with the Devon and Exeter Horticultural Society. Twelve classes for Bees

Honey, &c. Schedules from E. E. Scholefield, Hon. Secretary, Devon B.K.A., Heathfield, Chudleigh, South Devon. **Entries close July 27.**

August 5 (Bank Holiday) at Lichfield.—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Open Classes for Light and Dark Honey and Wax. Two classes for members of the Staffs. B.K.A. and two open classes for Cottagers. Medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society. Schedules from Hon. Sec., Mr. E. C. S. Stow, Hessle, Hull. **Eatries close August 1.**

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes**; one for single 1-lb. jar extracted honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 7, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1-lb. section and single 1-lb. jar, with no entry fee. Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

At Llanberis.—Honey Show in conjunction with Llanberis Horticultural Show. Open class for single 1-lb. jar Extracted Honey. Free entry. Prize complete frame-hive. Schedules from R. Jones, Llanberis. **Entries close July 22.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition. Open Classes for Bees, Hives, and Extracted Honey. Schedules from Mr. J. P. Phillips, Spetchley, Worcester, Acting Secretary W.B.K.A. **Entries close August 1.**

August 8, at Foys Chetnole.—Yetminster and District B.K.A. Annual Show of Bees, Honey, and Beeswax. Thirteen classes (including three open classes). Entry free for single 1-lb. section, 1-lb. jar extracted honey. Schedules from G. Leeding, Bradford Abbas, Sherborne, Dorset. **Entries close August 3.**

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 27 and 28 at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedule from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers.**

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

PRESS-CUTTINGS ABOUT BEES.

SWARMING BEES.

On Saturday night an unusual sight was witnessed in one of the busy thoroughfares of Neath, upon which a swarm of bees had descended. The bees had followed a milk-cart from Cefn Don Farm, and opposite the Crown Hotel settled in a mass under a cart which stood on the roadway. A hive was sent for, and the swarm would have been safely gathered had not an ignorant person scattered the bees by striking the cluster with his coat. There was much indignation amongst the by-standers at this stupid action. A crowd gathered, and from a safe distance watched the industrious little insects that had been driven out, alas! not to find a new home. —*The Cambrian.*

BEES INVADE A PILLAR-BOX.

A queen-bee crept into a letter-box at Pointon, near Billingborough, on Saturday afternoon, and hundreds of her loyal subjects speedily followed.

Then the postman came to collect the letters. It took him longer than usual. He had to resort to a novel device.

From a house at hand he borrowed a pair of tongs, and in this way extracted the missives. The bees stuck tenaciously to the letters, and had to be shaken off.

In the evening the bees crept out again as cooly and deliberately as they had crept in. No casualties are reported.—*Daily Express.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN ARMSTRONG (Coanwood).—*Races of Bees.*—We have no knowledge of *distinct* races of bees designated "Hungarians," "Herzegovinians," or "Dalmatians," and do not know who undertakes to supply queens of the so-called "pure races." There is a variety known as the "Caucasian," of which some queens are, we believe, now on their way to this country as a present to the British Bee-keepers' Association. When these queens arrive and are established at the B.B.K.A. apiary at Swanley (as we trust they will be this summer), we shall have an opportunity of speaking with some practical and personal knowledge on the subject. Meantime, we will be glad to know the source of the information to which a reply is desired from us.

EAST CAMBS (Soham).—*Honey for Exhibition.*—All three samples are good in colour and No. 1 also stands well for consistency; 2 and 3 are rather thin, but all are good in flavour and suitable for the show-bench.

"HEATHER" (Market Drayton).—*Varieties of Heather.*—The bunch of heather twigs contains both the honey-producing varieties, but the flowers are small and withered-looking as if produced out of season (as they are in July). Full particulars—with illustrations—of the various heaths can be had post free from this office for 1½d. in stamps.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

W. K. B. (Penzance).—Comb sent (newly-built out) has never contained brood at all. The suspected cells are full of fresh-gathered pollen only.

W. J. K. (near Garstang).—Bad case of foul brood, larvæ in comb dying fast.

W. H. C. (Beverley).—Foul brood in both samples; comb is also very old and black. It should be burned.

*** *We are compelled to hold over some Letters, already in type, till next week.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

GARDENER WANTED. Used to bees. Constant work. E. H. TAYLOR, Welwyn, Herts. G 69

FOR SALE, clear, transparent SECTIONS, full weight. C. TAYLOR, Summerhill, Cross-in-Hand, Sussex. G 66

FOR SALE, four excellent bar-frame HIVES, complete, 6s. 6d. each, cost 14s. 6d. each. AVERY, Ripley, Surrey. G 73

DAFFODILS.—Can spare few Bulbs from "Lordswood's" collection. Send for list. SANDS, Rednal, Barnt Green. G 70

PURE EXTRACTED light coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

WANTED, Geared EXTRACTOR in good working order. Must be cheap. Deposit system. Apply, "W. C. H." Office of this Journal. G 67

WANTED, healthy stock BEES, for handsome Setter Dog, one year old, healthy, excellent companion. Dr. WALKER, Kirkby-Stephen. G 71

WANTED, for prompt cash, half gross 1-lb. tie-over Honey Bottles, and half gross 2-lb. do. Also gearing for Guinea Extractor. THOMPSON, Apiary House, Gowdall, Snaith, Yorkshire. G 68

DRAWN OUT COMBS, Sections, 50, 8s. 4d.; Shallow frames, 50, 12s. 6d.; Standard frames, 50, 17s. 6d.; Cyprian Queens, 7s.; Carniolans, 6s. 6d.; Italians, 5s. 6d. Imported consignments due. 6th swarms now 12s. 6d. SPEARMAN, Colesbourne, Cheltenham.

FINE HEATHER HONEY, 140 lb., from virgin combs. Offers. HORN, Bedale, Yorkshire. G 62

BEES.—Strong natural Swarms, in straw hives, 10s. 6d. CADMAN, Codsall Wood, Wolverhampton. G 49

SUPERIOR BEES.—Good SWARMS, 15s., packed free. WALTON, Honey Cott, Weston, Leamington. G 44

HEALTHY STOCKS in Skeps. 1901 Queens, 9s. each; two, 17s. 6d. I am overstocked. Hybrid Cyprian Queens, 4s. each. SPEARMAN, Colesbourne, Cheltenham. G 60

HONEY.—New EXTRACTED at £2 16s. per cwt. Carriage forwarded. Samples, 4 stamps. OWEN BROWNING, The Apiary, Kingsomborne, Hants. G 51

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

BEE HIVES and APPLIANCES FOR SALE, cheap. Never been used. For full particulars apply, ALFRED JOHNSON, Clarence Villas, Swinton, Manchester. G 57

25TH YEAR.—Reliable Queens, 5s. and 3s. 9d., introducing cage, delivered. Stocks on wired frames. ALSFORD, Expert, Blandford.

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

BEES.—Six Stocks four swarms; all healthy and strong, of prolific strain, in straw hives. Price from 14s. PETTIT, Member Assoc., Honey-lane, Waltham Abbey, Essex. G 53

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

TANNED GARDEN NETTING, 25 yds. by 8 yds., 50 yds. by 4 yds., 100 yds. by 2 yds., 8s. Prompt delivery. L. WREN & SON, Net Merchants, 139, High-street, Lowestoft. F 14

Editorial, Notices, &c.

ROYAL SHOW AT CARDIFF.

(*Report concluded from page* 272.)

THE HONEY CLASSES.

After several disappointing seasons, so far as regards a display of honey of the current year at the "Royal" show, it was satisfactory to see staged at Cardiff some very good samples of the new season's produce.

When we take into account the early date on which the show is held, the question of venturing an entry in the honey classes is necessarily a critical one for bee-keeping exhibitors. Indeed the uncertainty told heavily against entries and led to the adoption of a "saving clause" by means of which the option of withdrawing entries was wisely conceded by the B.B.K.A. in order to meet cases where adverse weather spoiled the chance of getting exhibits ready in time for the show. This year a comparatively small percentage of the exhibits were absent, and the quality of the honey staged was very good indeed. So good all round were the new season's sections and shallow-frames of comb-honey, along with the several classes for extracted honey, that we may warmly praise all the exhibits which received prizes or recognition at the hands of the judges without specifying the merits of each, except to express genuine satisfaction at the favour which bee-keepers are showing for the "medium coloured honey other than heather" class. In the classes for "light" and "medium" coloured honey the entries nearly doubled those of last year at York. In the "dark" class, however, only two entries were staged at Cardiff, and only one prize awarded.

It would also appear that the class for 1-lb. sections "of any year" is dying out, only two entries being staged at Cardiff and three at York last year.

The *Trophy Class* only produced four entries, the first prize being well earned by the exceedingly good display of Mr. Richard Brown. In it comb and extracted of excellent quality were neatly and tastefully staged, the whole being—as we thought—of the current year's gathering. Mr. Brown staged well-filled shallow-frames and capital sections, among the latter being a novelty nowadays in shape of some of the 2-lb. sections familiar on the show-bench in former years, but seldom seen now. Messrs. Lee & Sons got second for a display more decorative in character than the first-named one and containing fairly good samples of honey—new and old—well arranged.

The remaining six classes were of a miscellaneous character, good displays being staged in the two classes for beeswax. The wording of the schedule for the first time clearly defined at Cardiff that in one class, 352, quality of wax was the main point, while in Class 253 the chief merit lay in the suitability of the cakes of wax for the retail counter trade. In both classes the competition was keen and the exhibits very good indeed.

It is hard to say why the class for *Honey Vinegar* receives such small encouragement from bee-keepers as to produce a single entry only at Cardiff, while of *Mead* there were only two entries; but so it was.

Class 356. *Exhibit of a Practical Nature* only brought one entry, in shape of a capital honey-comb design, staged by Mr. Richard Allen, and illustrated in our issue of May 9 (page 183). This deservedly took the first prize on its merits.

In the final class for Interesting Scientific exhibits, Messrs. Lee & Son won 1st and 2nd respectively for beautifully arranged cases of entomological specimens for educational purposes and the use of lecturers.

On Thursday and Friday, the 27th and 28th, Mr. W. Broughton Carr held an examination on behalf of the B.B.K.A. for the third-class experts' certificates of the Association, nine candidates being examined. On Saturday, the 29th, Mr. T. I. Weston was the examiner, two candidates presenting themselves.

When referring to the "Inventions" class last week we inadvertently omitted any mention of Mr. E. H. Taylor's "Incubator for rearing queen-bees" shown in this class. We may now say that the exhibit was carefully gone over by the judges, and had any evidence been forthcoming giving the results of practical trials with the apparatus when applied to the purpose intended, the awards might have been different; but it was felt that a season's trial was necessary before arriving at a reliable conclusion as to its merits. If it answers the purpose, it will be recognised properly and deservedly, no doubt.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE UBIQUITOUS BEE.

[4429.] Its ubiquity is a marvel, for it seems to find a home in every clime from the Arctic regions of the Far North to the Torrid regions of the Equator. Du Challen, in his "Land of the Midnight Sun," records that when visiting the North Cape the only living creatures he saw were a bird and a *bee*. Even there, on the very verge of the cold and icy waters of the Solar Seas, our little friend glads the eye and charms the ear with its melodious hum amongst a dense and gloomy solitude. The keenest cold does not seem to daunt her, and she flourishes

under the most intense heat. In the first case, "The bee with its comb wiles winter away" (Browning) and enjoys the heat when it comes, so that in every part of the world we find the bee "Delight us with thy wandering hum" (Southey). The sage-scented Savannas are peopled by innumerable colonies of bees, and the wide rolling prairies of the New World, as yet unbroken by the culture of civilised man, have myriads of both wild and "domestic" colonies, so that their flowers do not all "waste their sweetness on the desert air." In the wild forests of the West, too, bees are familiar objects, and Bryant, the American poet, records that they have far outstripped man as colonisers—

The bee, a more adventurous colonist than man,
With whom he came across the Eastern deep,
Fills the Savannas with his murmurings,
And hides his sweets, as in the golden age,
Within the hollow oak.

It is well known that every country in Europe is dotted all over with innumerable bee-hives of all sorts and conditions. Our Antipodean brothers are spreading them far and wide in the new lands they are subduing, and wherever they go they find the "yellow-breeched philosopher" everywhere, "Sipping only what is sweet." Its joyful hum is omnipresent; always merry and looking at the bright side of things, he is found, as Emerson says—

Seeing only what is fair,
Thou dost mock at cark and care,
Leave the chaff and take the wheat.

Perhaps it might be too much to anticipate that when the North Pole is discovered, with the proverbial Briton sitting aloft, bees will be found in its close proximity. This much I will venture to predict: If a bed of fog is found growing at its foot there will be found a nest of humble bees! An enterprising firm of distillers advertised their mountain dew by sowing broadcast a print of a fully-attired Celt, seated on an imaginary pole, sampling their "special blend." My fancy only goes one step further, and pictures it flavoured with honey—a famous mixture well known of old as Athole Brose.

I have been surprised at the high altitude where some of the burly Bombus bees are found. I should judge that some of our "foggy" friends camp as high as 3,000 ft. Away up there, when resting after a long ramble, where perfect peace prevails, even there a drony hum suddenly breaks the stillness of the calm air, and a bumble dumbledore reveals itself to the attention of both eye and ear—

No life, but at moments
The honey bees' hum. (Arnold.)

Wordsworth seems to have been there when he wrote—

A humming-bee, a little tinkling rill,
By each of these the pensive ear was quieted.

And Bryant in the deep solitude of the primeval forest felt the same—

Should rest him there, and there he heard
The housewife bee and humming-bird.

One of the last places one would expect to find bees, or the thoughts of them, obtruding themselves would be the cell of a condemned criminal. Yet even there the charms of a long-lost innocence associates the hum of the bees with idealistic pictures of early youth, and I have culled the following written in such circumstances—

The roses bloom in the garden,
The bee comes wooing the flowers,
The song-bird pipes to his nest mate
All through the golden hours.

Ancient literature shows innumerable references to bees and honey. Virgil and Homer were quite familiar with bees, and if they were not themselves bee-keepers they must have had close association with those who were. In our own Scriptures, bees, or the product of bees, are named over thirty different times; the exact number might form food for search for the curious. The Talmud deals with the same subject repeatedly, and a whole chapter in the Koran is devoted to bees. It is a most interesting one, and worth study, though many of the ideas and "facts" are scarcely such as we would approve in these more enlightened times. In reading Dante lately I found references to bees in both "Paradise" and "Purgatory," and also what I scarcely expected, at least one reference in "Hell." The same may be said of Milton, but I will devote a whole article at least at some future time to the poets' bees.

Bees have frequently been kept in the suburbs of our large towns and cities, and lately we have heard they are kept—and successfully so—in the very heart of London. During the siege of Ladysmith colonies went on quietly collecting stores. The journal has repeatedly recorded strange instances of strange quarters selected by bees as fitting camping-grounds for errant swarms, and something interesting might be compiled on this head, but I forbear.—F. E. I. S.

FOUL BROOD.

[4430.] My experience with this disease may interest others and be helpful to some. Last year I had six cases amongst, at the commencement of the season, eighteen stocks; of these six to-day five are perfectly healthy. I will give brief account of each, taking the hives as they stood. No. 1 was a black stock, I requeened with an Italian in June, having previously sprayed the combs a few times; then I placed Izal powder in a box under the frames. In the autumn the stock was perfectly healthy, and now is one of my best stocks. No. 2, Carniolan-Ligurian queen. They were driven bees wintered in old skep combs, which may have had the disease. Stock very weak. Using no smoke, I gently took each comb, and without warning shook the bees off, gave some hatching brood, and the disease did not reappear. No. 3, Italian stock. These were frequently sprayed; finally I destroyed the queen, gave a ripe cell

from the Italian-Carniolan stock, and the disease disappeared. It is now a splendid stock. No. 4 was diseased the previous season, and the combs frequently sprayed, and the stock from time to time fed with medicated syrup; finally, in July, the stock being strong, I gave a ripe queen-cell from same stock as No. 3 received its cell. The disease soon disappeared. Stock at present strong and healthy. No. 5—Cyprians—very weak. Removed the queen in May. They raised a young queen, but the stock is slightly affected this season. No. 6.—Italian. Second season it was affected. Sprayed the combs frequently and fed with medicated syrup. No trace of disease, but the stock was very weak, the queen being old, and they were preparing to supersede her, so I joined a small swarm to it.

No. 5 was either reinfected, or the fault lay in raising a queen in the hive.

It may be asked, "Why did you not destroy the first affected?" I would have done so, but I knew I was surrounded by skeps reeking with the disease, in fact last autumn my bees cleared out some badly diseased hives. Judicious requeening seems to be the best way of eradicating the disease; either a vigorous queen—Italian or hybrid—or a ripe queen cell from a healthy stock.—ALPHA, *Hull, July* 9.

BEE FORAGE.

[4431.] While strolling in that charming spot, the Botanic Garden, Oxford, on Wednesday, July 3, the aroma of a fine lime tree drew me towards it, and my surprise was great when I found there was hardly a bee to be seen or heard about, although the mid-day sun was upon it. Going from it, a showy plant on one of the lawn beds attracted me; its flower spikes, rising some five feet from the ground, were evidently most pleasing to our little friends, they were busily working on the pinkish purple blooms for nectar. The name of the plant is Epilobium angustifolium. It is a hardy perennial, and I learnt from the gardener that it was easy to cultivate, blooming all through the summer. Possibly one of our horticultural friends could give the readers of the B.B.J. more information about it. I can only say the plant is well worth cultivation, both for beauty and honey producing.—AN ESSEX BEEKEEPER.

FOUL BROOD LEGISLATION.

[4432.] Some time ago the question of foul brood legislation was proposed and discussed in your pages, and several bee-keepers thought powers should be obtained for compulsory action against those bee-keepers who allowed the dreaded disease to become a source of danger, and worse, to their neighbours. At the time I spoke to a relative—who is a prominent parliamentary agent, regarding the best method to adopt to obtain legal measures. He has undertaken to bring the matter before such members of the House as would be likely to help legislation forward, and has written to me to know exactly what we want, and he will proceed to business. As a matter of fact, I have only a very vague idea of our requirements; but here is an opportunity which might be made use of if the general body of bee-keepers could formulate a programme of wants. Could a few of our leaders unite on the matter, saying definitely what powers we required, to whom are those powers to be delegated, and anything else which may be of use in this direction?

Unfortunately, we are far away from all Associations and bee-keepers. I have only had two of the fraternity here in three years. We are working up a few owners of bees. There are ten who have bar-framed hives besides myself. Bees came badly through the winter; I lost one stock through dysentery and another from starvation. Swarms have not been very plentiful amongst skeppists; I have had five, but I believe most of them are not from my own hives. Following the advice of the "Guide Book," all spare hives have been fitted with frames or combs, and I had three swarms hive themselves. I now possess twenty-one hives; one is working in three racks of sections, and one in two racks, with shallow-frames beneath the standard-body. I hived a huge swarm for a friend on June 3; put them in a hive with sixteen frames. Last Monday I gave them a section-rack, and now they are working in it very well. I have just purchased a common extractor and taken off 12 lb. to try it. I like it very much indeed.—W. J. BELDERSON.

TROUBLE WITH SMOKER.

[4433.] I read in your journal lately that when the bee-smoker became foul it was best to wash the perforated diaphragm to keep it clean to let the smoke pass. Seldom being able to get the proper quantity of smoke (for I like a heavy smoke just floated on to the top of the bees or frames better than a small volume blown into them), and so often it was difficult to keep it alight, repeatedly causing much trouble and annoyance.

I found washing with very hot water the best, and whilst doing so lately it caused me to consider of what use it was at all, for on holding it up to the light I saw the strips of metal that cross it each way (to carry it in the tube) obliterated half the holes. I take it the supposed use is to stop any sparks from being blown on the bees, and if so, that is far-fetched, for I have found since by taking it out the thing is not needed.

On removing the diaphragm, I was more than surprised at the vast improvement; it makes one master of the smoker at once. When starting, I blew it sufficiently to fairly well warm the tube; and afterwards, by keeping the tube erect, there is no further trouble,

and you can go on with ease and comfort till all the paper is burnt away.

I find the best paper to use is the corrugated brown paper used by chemists to send their bottles by post; the corrugations should be well rubbed down, the paper rolled up tightly, and tied with string; this gives the right air-spaces to work well. If the corrugations are not rubbed down, the air-spaces are too large, the paper burns away too fast, and it does not smoke nearly as well as when the corrugations are well flattened.—J. H. PARKES, *Doddridge, Warwickshire.*

BEES IN SCOTLAND.

[4434.] In forwarding subscription for B.B.J., I would like to say the articles I like most are those by your able correspondent "D. M. M.," Banff. I intend trying the system which he outlined in the B B J of April 25 (page 163). The principal bee-flowers here are white clover and heather, and "Arran heather-honey" is famed in Glasgow and the West of Scotland.

May was a splendid month for bees, but June was so wet and cold that the bees "gobbled" up what honey they had gathered in May. July has so far been fine, and bees are at work in the sections, although the supers of Stewarton hives, of which there are several here, are further advanced.—JAMES HAMILTON, *Brodrick, Arran, July* 8.

SWARM CATCHERS.

OLD QUEENS USELESS.

[4435.] I have tried swarm-catchers with indifferent success. What always happens is this: the swarm issues in the usual manner, clusters somewhere near, and then, being queenless, returns to the hive; this may happen once or twice; then the bees, think-may be she would not go, "ball" her. This I have recently proved. A swarm issued, and I made an artificial swarm, leaving some combs of brood on the old stand with the queen; next day I found queen balled, I rescued and caged her, releasing her the following evening, but subsequent investigation showed many royal cells and no queen to be found. In two other cases this year the same thing has happened; in the last case the swarm issued, headed by a virgin queen, which is able to get through the zinc. I have never once had the swarm cluster in the "catcher"; still I consider them useful only that when a hive is seen to swarm it should be artificially swarmed as soon as the bees are quiet, and no brood left with the queen. Another plan would be to remove the hive to a fresh place as soon as the swarm has issued, and whilst the hive was thinly populated find the queen and cage her over a hive on the old site; but of course a hive must be in readiness. It was interesting to find the queen balled, as I previously thought the queens might have been killed by a virgin, as they had mysteriously disappeared. But the best plan of all is, if royal cells are found or suspected, to artificially swarm them at once, as once they have the "swarming-fever" nothing will stop it.

Old Queens Useless.—I am convinced it is useless to keep a queen, however good, more than two seasons. Queens that have for two summers headed strong stocks proved failures this season, and I have removed them and given young queens reared from vigorous stocks. Care should therefore be taken in uniting stocks to save the younger queen. The future success of the colony depends upon it.

Selecting Non-Swarming Bees.—I was much interested in Mr. Lowe's experiences, which are similar to mine with Carniolan bees, or hybrids, when Carniolan blood is on the queen's side. Last season, to be beforehand with the Carniolans, I artificially swarmed them May 31; the first week in July the old queen headed a natural swarm. I am now doing away with all Carniolans as hopeless; but, on the other hand, I find an Italian queen and Carniolan drone produce splendid bees, in fact, the best of all. With respect to preventing swarming, I believe the only plan is to let the bees feel they have unlimited scope for comb building, and that can only be provided for by an additional chamber under the brood nest, the frames having starters only, and any combs built being taken away. Meadows supplies such a chamber under his guinea hive, the Conqueror does the same. Perhaps it is that with the empty chamber the bees feel they have plenty of elbow-room, whereas even when supers are piled up the space is continually contracting, and that when the population is daily augmenting. Of seven Conqueror hives, only one has swarmed or shown inclination to do so, and that had a Carniolan queen crossed with Italian drone, these did not even wait to fill their brood-chamber.—ALPHA, *Hull, July* 13.

HOMES OF THE HONEY-BEE.

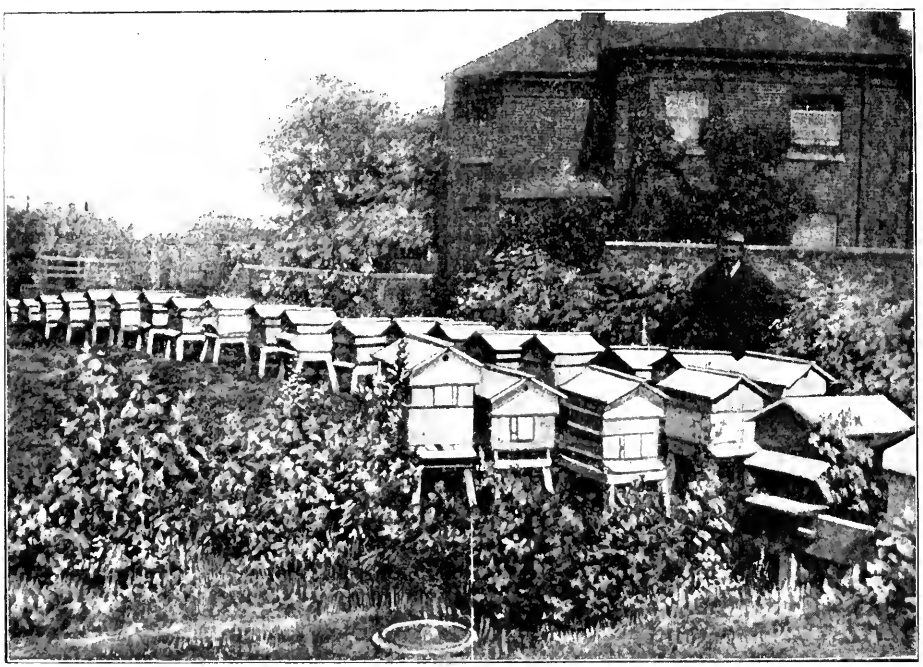
THE APIARIES OF OUR READERS.

We have in our friend Mr. Daniels another instance among "our readers" of a bee-keeper whose first recollection of the bees was the gruesome job of annually killing them off by means of the sulphur pit when their season of toil had ended. Luckily, better times for the "little labourers" now prevail, and it is pleasing to find so many now converted to better ways. Of himself Mr. Daniels writes the following interesting notes:—

"Herewith I send photo of our apiary, which consists of altogether fifty stocks, only about half able to be shown on the picture, with yours truly at the back of hives. So far as regards the history of my bee-keeping, it was in 1886 when my father gave me a skep of bees. He was one of the old-time bee-

keepers, as his father and grandfather were before him, so that I was in a sense born among the bees. Well do I remember when about six years of age having to look for the swarms, and 'ring the bees,' as it was called here in Sussex in those days, with the door-key and a fire-shovel. This performance was understood to give a right of ownership to the bees wherever they went if followed up. In the autumn also I remember well having to help in 'putting down' from twenty to thirty skeps, according to the season, with the help of the brimstone pit—a hole dug in the ground opposite each hive. My part of the work was to stand, with a wet sack left soaking in a pail of water, and as each hive was lifted off its stand, or floor-board, and set over the fatal 'pit,' I was ready to drop the sack over any bees left on the floorboard, and with the back of a spade to rap the sack all over, and thus smash and kill the unfortunates instead of smothering them, and so on to the next lot. When the gruesome work was over I was rewarded, when 'straining' the honey, with a nice little corner-piece of comb-honey, commonly called 'boys' pieces.' I may here add that the nearest approach my father ever had in the direction of 'modern bee-keeping' was in cutting off the nozzle of the bellows that hung by the fireplace to make a smoker with.

"Well, sir, to make a long story short, I came across a bee-keeper imbued with modern ideas in 1887, and was by him advised to make a trial of the frame-hive, which I did, and transferred two stocks I then possessed by placing the skeps above the frames—an idea which you now so often recommend in transferring from skeps to frame-hives. My first trial of the plan proved all right, for I next year obtained quite 200 lb. of surplus honey from the two colonies thus formed, and two swarms, which issued at the same time one from each hive, and joined together of themselves. Unfortunately I lost the chance of forming a big stock from this double swarm through the bungling of the man who tried to hive them, as I was away from home all day myself. This was my record year according to number of stocks and surplus-honey obtained.



MR. J. DANIELS' APIARY, CHICHESTER, SUSSEX.

"In the year 1888, so memorable as an altogether bad season for bees, I was compelled to move to the city of Chichester, where I came across a real friend in Mr. Bowers, a bee-keeper in a large way of business in the district. He explained to me many things with regard to the management of bees, and under his friendly teaching I became enthusiastic right up to 'bee-fever' pitch. I commenced in earnest, and became a reader of the BEE JOURNAL and *Bee-keepers' Record* from that time forward.

"I often look back to the pleasure I got in reading the articles written by contributors whose names I now miss, such as 'X'tractor,' 'Amateur Expert,' and other writers of that

day, not forgetting our Editors—who are still with us—and your answers to 'Queries,' from which I have learned a good deal.

"The whole of the hives—besides the others not shown in the picture—were made by myself, with the assistance of the friend mentioned above in helping to cut the frames out with a small circular saw erected for that purpose. This kind of work keeps us busy in the long winter evenings.

"My good wife—the partner of my bee-keeping as well as my 'joys and sorrows'—was, unfortunately, ill in bed when the photo was taken. Although not very fond of bees herself, she is a great help in preparing the honey for market, cleaning sections, polishing up jars, &c., which last little '&c.' means she is quite a good hand at taking the cash and carefully taking care of the latter, too.

"I have often read in our journals letters from bee-keepers wishing to know if keeping bees near to a railway is detrimental to success. I have not found it so. Our apiary is very near to the main lines of railway from London and Brighton to Portsmouth, and a good many heavy passenger and goods trains pass this spot during the twenty-four hours.

"The house shown at back of the photo is the residence of the deputy chief constable of West Sussex; there are also other houses surrounding the apiary, and I am pleased to say I have never had a complaint from any of my neighbours or from men working on the railway, but—and there is a lot in this—I always endeavour to choose a proper time for any manipulation required. If by chance I get hold of a vicious lot of bees I requeen them and so weed them out.

"The whole of our apiary has been built up with driven bees and artificial swarms, not having had a dozen natural swarms to my knowledge during fifteen years' bee-keeping. No doubt much of this swarm-preventing is through giving timely room in advance of requirements.

"In conclusion, I may say bee-keeping will 'pay' if properly attended to, and the bees are located in a fair honey-producing district."

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of June, 1901, was £2,404.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Echoes from the Hives.

Fritham, New Forest, July 5.—Bees in this part are just beginning to store honey in the supers from the blackberry and heather and a few limes. Our main source for early honey is from the holly, but this year it was a failure; there was scarcely any holly bloom, so there has been no early sections here.—L. HICKMAN.

Bishop's Waltham, Hants, July 15.—"A moderate crop of excellent quality." That about describes the position with regard to the honey season in this district, so far as one can at present estimate probable total results. Strong easterly winds and cold nights greatly retarded bee-work during a considerable portion of May and June, but the weather so far has been favourable for the late clover and lime harvest. Work on our magnificent lime trees has provided a fine sight for bee-keepers for some days past, but my bees display a strange reluctance in sealing over the combs. My first honey was taken off on June 10, and since then I have only obtained small lots at intervals from three out of six hives supered. My best stock have so far yielded forty-five finished sections, while a swarm hived at the end of May has almost completed two racks of sections.—A. ROYDS, JUN.

Queries and Replies.

[2688.] *Foul Brood and Beginners in Bee-keeping.*—Can you throw any light in your journal—to which I am becoming a subscriber, as I have derived such benefit from two bound volumes lent me by a bee-keeper near here—on the following:—I have five stocks of bees in frame-hives in a very good situation and partially shaded during part of the day. One stock has nearly filled two boxes of shallow-frames with excellent honey (these are ordinary English bees). Two others were queenless in April and have since been making up for lost time, but nothing more. The remaining two hives contain very strong stocks of Italian bees, crowding every frame in one hive and all but one in the other. They have been supered for a month, but decline to "go up," and when we examined them yesterday we found that they had not gathered a particle of honey this year (*i.e.*, there is none with new capping), no old honey left, though in March they had lots. Plenty of brood hatching out, and the hive very crowded. My bee-friend thought he "spotted" foul brood in some of the frames, but if it was, it was only about one in each frame, and those were only larvæ recently dead or out of their proper position—none in a later stage—so that would not discourage the bees. They were very quiet and well-behaved altogether. Our expert, when he came round, thought the late season would account for this, but as he did not open the hives he was not aware of the entire absence of any stores. That this is a good honey neighbourhood is proved by the fact that one hive has done so well, and of course we are now at the height of the lime-blossom harvest. Would such a slight form of foul-brood, if it is foul-brood, cause this laziness, or how can

it be accounted for? I have removed the excluder-zinc, thinking they may not like it, but they did not come up any the more for that. There is a good deal of foul-brood round Oxford, and my bee-friend advised my doing away with one hive, but when the expert saw it his remark was, "Hardly good enough, not enough to swear by." I burnt it, however, and have placed naphthol in the others. It is very discouraging to have such a poor result from such fine stocks, and I hope you may be able to advise me how to proceed. I wonder if Italian bees are lazier than the ordinary? I am much interested in bee-keeping, though I cannot get over my nervousness in dealing with them, but hope that will come in time.—M. F. SMITH, *Oxford, July* 11.

REPLY.—The two Italian stocks are inaccurately described as "very strong" when the bees in July do no more than "crowd every frame of the brood-chamber" (in one stock they only cover "all the frames but one"). A really strong colony at this season should have bees enough to fill three brood-chambers. We fear the real cause of failure is foul brood. Send us a small sample of the comb to enable us to judge. The fact of your one strong stock doing so well should be an incentive to further study of "cause and effect" in bee-life, and we therefore advise your procuring a copy of the "Guide Book" in preference to relying on the B.B.J. for help in such trouble as is detailed above.

[2689.] *Do Bees Visit Flowers Promiscuously?*—A lady friend, when inspecting my hives, asked me an apparently simple question which I was unable to answer. She said that she had frequently read, and wished to know if it was true, that if, when a bee is out collecting honey, she only visits one particular variety of flower on each trip, and does not mix the honey from different varieties of flowers. Can you with certainty inform me on this point in the next issue of the B.B.J.?—A. F., *Ealing, W., July* 9.

REPLY.—It may be safely taken for granted that, as a rule, bees, when out foraging, confine their visits to one variety of blossom during each trip. It is also certain that the bee has no trouble in "fixing upon" the flowers that are yielding best when once it reaches the forage-ground.

[2690.] *Queen Cast Out Dead.*—I had a stock of bees sent me from Gloucestershire in a proper travelling hive on June 6. On arrival I placed them on the stand prepared for them and liberated the bees. They remained like this until the following Monday, and were then put into a frame-hive. I found brood in all stages, but no eggs could be seen, and several queen-cells were sealed over. I tore down all of these save one, selecting the best cell, as I thought. I examined the hive again on June 16, and found nearly all the brood hatched out and bees storing honey fast. On the 19th the queen-bee (enclosed) was found outside the hive dead. 1. Could you tell me the cause of the mishap? The bees are now queenless, so I took from another hive a piece of comb containing eggs and placed it in the centre of the brood-nest. 2. Will the bees be likely to raise a queen for themselves from these few eggs (about fifty)? To-day, July 9, I noticed a queen-cell sealed over, but not on the piece of comb I gave the bees. Would this be an egg from the enclosed dead queen, or would it be a fertile worker? I have a Cowan's "Guide Book" and "The Modern Bee Farm," and I study them well, but I am at a loss in the case in question. A reply in the B.B.J. will oblige.—C. W. TILLEY, *Stirchley, near Birmingham.*

REPLY.—1. The fact of sealed queen-cells being found on the combs four days after the stock of bees were received goes to show that the bees were already queenless when the hive reached you. But with regard to the mishap to young queen subsequently hatched out from the ripe queen-cell selected by yourself, we fear the mischief has occurred during your examination of the combs on June 16. 2. An inspection of the combs will be the safest reply to this question, but the queen-cell seen on the 9th inst. is probably nothing more than an abortive attempt on the part of the bees to raise a queen.

[2691.] *Getting Frames of Comb-honey Completed.*—I should like your advice concerning the following point: I have now a super of ten shallow-frames completed. I can scarcely hope to get the bees of that hive to finish ten more frames this season. I do not want to find myself at the end of the season possessed of a number of half-finished frames. I do not extract honey myself, as we prefer to eat it out of the comb. Under these circumstances I would ask: How many shallow-frames would you now remove, their place to be taken by fresh frames with full foundation?—IAN ANDERSON, *Coventry, July* 15.

REPLY.—Seeing that we are past mid-July, about three additional frames will amply suffice for what remains of the honey-harvest, and we should carefully confine the bees to these three frames by division boards, wrapping up as warmly as possible. Remove the sealed combs at once while they are safe.

[2692.] *Transferring Bees.*—I have some bees in a skep which I purpose "driving" and putting into a frame-hive, but the latter cannot be placed on the exact stand now occupied by the skep, but will be three yards away. After being "driven," am I right in presuming that the bees will not go back to the old stand?—X., *Andover.*

REPLY.—The bees will certainly go back to the old stand. We hope you fully understand what it means to drive from skeps and put them in frame-hives at end of the honey-season. Unless you do, the operation will probably fail.

Bee Shows to Come.

July 24, at Broughton, Hants.—Broughton Flower show. Open class for six 1-lb. jars extracted honey. Schedules from C. Upshall, Broughton, Stockbridge, Hants.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances. Liberal Money Prizes and valuable Medals in Open Classes for Sections, Extracted Honey, Honey Trophy, and Appliances.

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show. Schedules from W. G. Barnfield, Hon. Sec., H.B.K.A., Charlton, near Bristol. **Entries close July 24.**

August 2, at Exeter.—Annual Show of the Devon B.K.A., in conjunction with the Devon and Exeter Horticultural Society. Twelve classes for Bees Honey, &c. Schedules from E. E. Scholefield, Hon. Secretary, Devon B.K.A., Heathfield, Chudleigh, South Devon. **Entries close July 27.**

August 5 (Bank Holiday) at Lichfield.—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Open Classes for Light and Dark Honey and Wax. Two classes for members of the Staffs. B.K.A. and two open classes for Cottagers. Medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society. Schedules from Hon. Sec., Mr. E. C. S. Stow, Hessle, Hull. **Entries close August 1.**

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes**; one for single 1-lb. jar extracted honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 7, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1-lb. section and single 1-lb. jar, with no entry fee. Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

At Llanberis.—Honey Show in conjunction with Llanberis Horticultural Show. Open class for single 1-lb. jar Extracted Honey. Free entry. Prize complete frame-hive. Schedules from R. Jones, Llanberis. **Entries close July 22.**

August 7, at Marlow. Show of Honey, Hives, and Bee Appliances in connection with the Marlow Horticultural Society. Valuable Prizes. Schedules from the Hon. Sec., A. D. Cripps, Marlow, Bucks. **Entries close August 3.**

August 7, at Macclesfield.—Adlington and District Agricultural Society's Show. Four open classes for hives, six sections, six 1-lb. jars, and wax. Schedules from W. J. Trotter, 4, Church-street West, Macclesfield. **Entries close July 22, or at double fees July 27.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition. Open Classes for Bees, Hives, and Extracted Honey. Schedules from Mr. J. P. Phillips, Spetchley, Worcester, Acting Secretary W.B.K.A. **Entries close August 1.**

August 8, at Foys Chetnole.—Yetminster and District B.K.A. Annual Show of Bees, Honey, and Beeswax. Thirteen classes (including three open classes). Entry free for single 1-lb. section, 1-lb. jar extracted honey. Schedules from G. Leeding, Bradford Abbas, Sherborne, Dorset. **Entries close August 3.**

August 15, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 10.**

August 15, at Abergwili, Carmarthenshire.—Abergwili Horticultural and Agricultural Society's Show. Open class for single 1-lb. jar extracted honey (entry free). Prizes, 10s., 7s. 6d., 5s., and 2s. Particulars from Thos. Rice, Secretary, Abergwili.

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt.)

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. C. (Ayr).—*Bees Hanging Idly Out.*—1. When bees are "all hanging out in front of the hive" as stated it indicates want of room and ventilation. You need have no fear that they will swarm again after swarming early in June, and since then filling a rack of twenty-one sections. Probably the second rack now on will be as much surplus as the bees will store this season unless you have heather within reach, in which case a third rack may be required. To fill and seal twenty-one sections in thirteen days is not bad work, but we not seldom hear of that number being filled in eight or nine days in a good season. 2. Two racks of 1-lb. sections and a swarm is not a bad first year's work from one hive.

"Mona" (Isle of Man).—*Preparing Extracted Honey for the Show Bench.*—Beyond securing clear glass jars of good type (see advertisements), there is no "best method of bottling" that we can give. The honey is simply strained after removal from the extractor, and freed from air-bubbles by being allowed to stand until quite clear.

H. F. G. (Bedale).—*Insect Nomenclature.*—The insect sent is the *Giant Sirex* (female). It belongs to the tribe of injurious insects.

Enthusiast (co. Cork).—*Introducing Queens.*—If certain that the dead queen-bee sent had suffered no injury from *rough handling*, we should describe the insect as "aborted," the anterior or large wing being crushed out of form as if improperly developed, while the posterior, or small wing, is all shrunken up like a "withered limb." Bees in the imago stage thus aborted indicates insufficient warmth for proper or normal development.

John Duncan (Aberdeen).—*Honey Samples.*—Your sample is of good quality, from mixed sources, and quite fit for the show-bench. As regards prizes, of course all depends on what is staged in competition.

L. Wren (Lowestoft).—*Bee Plants.*—The bloom sent is from the *Bokhara clover*, a very useful bee-plant in some seasons, and one that blooms for a long time.

Viator (N. Wales).—*Extracting Troubles.*—We will endeavour to give you some help on the point named in next week's issue.

"Querist" (Guildford).—The bees sent are the nearly matured pupæ of drone-brood, and the reason of their being cast out is because removal of queen-cells has caused the bees to give up all idea of swarming for the year.

D. Jones (Ledbury, Hereford).—*Varieties of Heather.*—Both twigs of bloom are of the Erica vulgaris, or common ling, which is the best sort for bees.

R. Macintosh (Kingussie).—The queen is a young unmated one, such as is cast out of hives after the issue of second swarms.

Geo. Campbell (Ainsdale).—*Twin Larvæ in Queen Cell.*—It is "unusual," but not extremely rare, to find a couple of larvæ in a sealed queen cell, but they always die prematurely. We never saw an instance where the larva reached the chrysalis stage.

S. A. (co. Monaghan).—*Wintering Driven Bees.*—The essentials in this item of bee-work are—(1) get the driven bees in mid-August or earlier; (2) unite two lots in each frame-hive; (3) put the bees on full sheets of foundation, and, without delay, give each stock at least 20 lb. of sugar made into syrup; (4) winter the bees only on as many frames of comb as are fully drawn out and supplied with sealed food.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

W. Lowe (Sittingbourne).—Slight signs of foul brood on one side of comb, other side contains pollen only.

Edwin Cope (Atherstone).—Comb contains "chilled brood" only.

M. S. Nattras (Stocksfield).—Your friend's hive, judging by sample received, is as badly diseased as it well could be. Comb is reeking with foul brood.

W. R. P. (Chichester).—We can only give the very briefest reply in a sixpenny telegram. The comb being affected with foul brood (and presupposing that your friend knows nothing about treating the disease), we advise his procuring a copy of the "Guide Book," where very full directions will be found regarding it.

A. D. (Shandon, N.B.).—Comb sent, though very old and black, contains no disease, but is sweet and healthy. The few dead larvæ are "chilled" only.

J. M. (Neilston).—The "wire" sent would ease your mind as regards "F.B." If the bees are worth saving and treating as a swarm, carry out that plan as proposed. If not strong, burn combs and bees and scorch inside of hive, as you suggest.

J. Jakeman (Bournemouth).—Both samples are affected with foul brood. If bees are now on "one comb only" they are worse than useless.

Clifford Daish (Bishop's Waltham).—Beyond a fat larva of wax-moth and several small larvæ of the same "bee-enemy," comb contains nothing worse than honey and pollen.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

OVERSTOCKED.—6 lb. thin SUPER FOUNDATION, 2s. 3d. lb. LONG, North-rd., Mere, Wilts. G 75

"W.B.C." HIVES FOR SALE; zinc covered roof and painted. Apply "J. S.," Office of this Paper. G 79

CATALOGUES and PRICES of APPLIANCES and BEES to LEONARD CRAWSHAW, Burnside, Ilkley. G 74

WILL SELL or EXCHANGE, grand Airedale TERRIER DOG, for healthy SWARM of BEES. J. NUTTALL, Netherton, near Huddersfield. G 84

WANTED, HONEY EXTRACTOR. State lowest price; deposit system. VAUGHAN, Burry Port, Carmarthenshire. G 76

FOR SALE, first quality SECTIONS; well finished, 7s. 6d. per doz.; 6 doz., carriage paid. DAVIS, Great Bookham, Surrey. G 82

THREE-FRAME NUCLEI, with fertile Queens from imported Cyprian, 8s. 6d. WOOSNAM, Newton-Abbot. G 80

STRONG, healthy driven BEES, with Queen, end of July, 5s. per lot. Boxes returned. MORETON, Expert, Leigh, Worcester. G 81

STRONG 3-STANDARD-FRAME NUCLEI, 1901 Fertile QUEEN, 10s. 6d. WOODS, Normandy, Guildford. G 85

25TH YEAR.—Small SWARMS with Reliable Queens, 5s. 6d. Package free. Queens, in introducing cage, 3s. 9d., delivered. ALSFORD, Expert, Blandford.

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

WANTED, GEARED EXTRACTOR, in good working order. Someone who would take woollen goods in exchange preferred. Apply to J. JONES, Brynkir Woollen Mills, Dolbenmaen, N. Wales. G 77

SELLING OFF my BEES and APPLIANCES, including 6 Stocks Bees in Cowan hives, Bee House, containing 6 hives, Comb Rack and Table (bolted together), 200 drawn-out Combs, Extractor Ripeners, Honey cans, Shallow frame, and Section crates. Numerous other appliances, nearly new; sell lot or part. PAYNTER, Pen-Nevis, Par-station, Cornwall. G 83

FINE HEATHER HONEY, 140 lb., from virgin combs. Offers. HORN, Bedale, Yorkshire. G 62

DAFFODILS.—Can spare few Bulbs from "Lordswood's" collection. Send for list. SANDS, Rednal, Barnt Green. G 70

PURE EXTRACTED light coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

SUPERIOR BEES.—Good SWARMS, 15s., packed free. WALTON, Honey Cott, Weston, Leamington. G 44

SPLENDID 1901 HONEY, in 28-lb. tins, 6½d. lb. Tins free. Sample, 2d. Cash or deposit. DUTTON, Terling, Essex. G 64

FOR SALE, Pure NEW ENGLISH HONEY, 6d. per lb., in 10 and 28 lb. tins (tins included). GEO. REYNOLDS, Eaton Ford, St. Neots. G 33

BEE HIVES and APPLIANCES FOR SALE, cheap. Never been used. For full particulars apply, ALFRED JOHNSON, Clarence Villas, Swinton, Manchester. G 57

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BEKETON, Pulborough, Sussex.

Prepaid Advertisements (*Continued*).

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

DRAWN OUT COMBS, Sections, 50, 8s. 4d.; Shallow frames, 50, 12s. 6d.; Standard frames, 50, 17s. 6d.; Cyprian Queens, 7s.; Carniolans, 6s. 6d.; Italians, 5s. 6d. Imported consignments due 6th. Swarms now 12s. 6d. SPEARMAN, Colesbourne, Cheltenham.

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3½ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s 0d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

J. W. AVERY, RIPLEY, SURREY,

owing to removal,

has the following BEES and APPLIANCES FOR SALE.

Stocks guaranteed healthy.

Lot 1.—May Swarm, on 8 drawn-out Frames, with Section Rack partly filled, in good Hive, 20s.

Lot 2.—June Swarm, on 8 Frames, in good Hive, 17s. 6d.

Lot 3.—Splendid Stock, with 2 Section Racks, nearly completed, 40s.

Lot 4.—Very strong Stock in Skep, 10s.

Lot 5.—Good Stock, on 8 Frames, in good Hive, 20s.

Lot 6.—Strong Stock, in good Hive, Section Rack nearly full, 30s.

Lot 7.—Two good Frame Hives, in good condition, 12s. 6d. the two.

Lot 8.—Six Section Racks, fitted complete, 10s. for six.

Lot 9.—Sundry Appliances, cheap. Write for particulars.

Lot 10.—Double Hive, complete, 7s. 6d.

WHY NOT BUY YOUR SKEPS DIRECT FROM THE MAKER?

You may buy first-class skeps bound with stout new cane, at **1s. 3d., 1s. 6d., 1s. 9d.,** and **2s.** each. Cash with order; 5% discount. Wholesale prices on application. S. J. COX, Bee-skep Maker, 12, Arwenack-street, Falmouth, Cornwall.

NOTE OUR SPECIAL LINES!

"W.B.C." Hives, from 17/- to 25/- each.
"W.B.C." Non-Swarming Hives, 24/- each.
Improved Cottager's Hive, with Zinc Roof, 12/6 each.
"Interchangeable" Hives, 13/6 and 14/6 each.
These Hives can be worked with Frames Parallel or at Right Angles to the entrance, as desired.
Best Snow-white Sections, 2/- per 100: Split Top, 6d. extra.
Best Quality Standard or Shallow Frames, 1/2 per doz.
"W.B.C." Ends, ⅜", 30, post free, 1/-; 3/6 per gross, post free.
Zinc Queen-Excluders, 17" by 15", 6d. each; post free, 9d.
Celluloid " " " 1/4 each, post free.
Best 1-lb. Nickel Screw-cap Bottles and Cork Wads, 20/- gross.
Improved "Derby" Extractor, 13/6 each; or with Gearing, 20/- each.
The 20th Century Extractor, 22/- each
" " " with genuine Bicycle Chain Gearing, 32/- each.

R. H. COLTMAN, Bee Appliance Maker,
49, Station-street, BURTON-ON-TRENT.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, the 18th inst., Mr. F. B. White occupying the chair. There were also present Messrs. R. T. Andrews, W. Broughton Carr, W. H. Harris, W. F. Reid, E. D. Till, Col. Walker, Mr. T. I. Weston, and the secretary.

The minutes of the previous meeting were read and confirmed.

The following new members were duly elected, viz, Mr. C. F. T. Blyth, 22, Tanza-road, Hampstead, N.W.; Mr. H. Samways, Maesybont Board School, Llandebie, R.S.O.; Mr. G. Spearman, Colesbourne, Cheltenham.

The Finance Committee reported that the accounts to date had been examined, and the receipts compared with the payments to bankers. The payments recommended included the prize and sales accounts in connection with the recent Royal Show. The report was approved.

Acting upon the advice of examiners of candidates for third-class expert certificates, it was resolved to grant diplomas to Misses Adams, La Mothe, and Willans; and Messrs. C. A. Atchley, R. Brown, Chas. Buckel, R. H. Coltman, David Davies, J. Grattan, Richard Greaves, W. E. Hyde, E. Pitt, J. Rowlands, H. Samways, G. A. Shaw, and Wm. Thomas.

The report of the expert upon his work during the month of June was laid before the Council.

Appointments were made of judges and examiners to act at St. Helens, Bradford, Madresfield, Chingford, Moorgreen, and Budleigh Salterton.

It was resolved to collect names and addresses of bee-keepers willing to assist in the formation of organisations in the counties of Bedford, Buckingham, Dorset, Gloucester, Hertford, Monmouth, Rutland, Suffolk, and Westmorland.

Attention was directed to correspondence on bee-keeping recently appearing in the columns of the *Daily Mail*, to which journal it was decided to send a communication dealing with the work of the B.B.K. Association and societies affiliated thereto.

The next meeting of the Council will take place on Thursday, September 19.

STAFFORDSHIRE B.K.A.

SHOW AT NEWCASTLE-UNDER-LYME.

Referring to advertisement of the above Show on front page, we must remind readers that the entries close on Saturday the 27th. Intending exhibitors should therefore make their entries at once, to be in time.

REVIEW.

The Life of the Bee. By MAURICE MAETERLINCK. Published by George Allen, Charing Cross-road, London. 5s. net.

Not since the appearance in 1876 of Büchner's "Mind in Animals" have we had a book about bees more charming, or one that we have read with greater pleasure, than Maeterlinck's "Life of the Bee." It is not a practical treatise on bee-keeping, nor even a scientific work on the natural history of the bee, but it describes in beautiful language phenomena connected with the hive which are more or less familiar to those who have kept bees and observed their habits. The author is a practical bee-keeper of twenty years' standing, and from the manner in which he writes he must have been a very careful observer of the habits of bees during that time. The book before us is divided into seven chapters, the first "On the Threshold of the Hive" is an introduction to the subject. We have above compared the book with "Mind in Animals," but this is what the author has to say respecting this work: "Büchner's treatise is comprehensive enough, but contains so many hazardous statements, so much long-discarded gossip and hearsay, that I suspect him of never having left his library. The book smells not of the bee or its honey, and has the defects of many a learned work whose conclusions often are preconceived, while their scientific attainment is composed of a vast array of doubtful anecdotes collected on every side."

Our author further says:—"I shall state nothing, therefore, that I have not verified myself, or that is not so fully accepted in the text-books as to render further verification superfluous. My facts shall be as accurate as though they appeared in a practical manual or scientific monograph, but I shall relate them in a somewhat livelier fashion than such works would allow, shall group them more harmoniously together, and blend them with freer and more mature reflection. The reader of this book will not gather therefrom how to manage a hive, but he will know more or less all that can with any certainty be known of the curious, profound, and intimate side of its inhabitants."

Our author with a fluent pen has carried out his promise to the end, and although perhaps on two or three points we cannot entirely agree with the conclusions he arrives at, more particularly with respect to comb construction, his facts are in the main very accurate, and the interesting manner in which they are related gives the book a special charm which makes it read somewhat like a romance.

In the first chapter, after referring to the bibliography of the bees from Aristotle to Virgil, he says: "The real history of the bee begins in the seventeenth century with the discoveries of the great Dutch savant Swammerdam." It was he who invented the

microscope, and by means of dissection was able to describe the different parts of bees, and also to differentiate the sex. Alluding to Réaumur and Brunet, he passes on to Huber, whom he calls "The master and classic of contemporary apiarian science." He thus records the progress made in practical apiculture to the present time, and gives a description of the complete mastery the bee-keeper has over the bees, in which this passage occurs: "For the destiny once imposed by the seasons he has substituted his will. He repairs the injustice of the year, unites hostile republics, and equalises wealth. He restricts or augments the births, regulates the fecundity of the queen, dethrones her and instals another in her place, after dexterously obtaining the reluctant consent of a people who would be maddened at the mere suspicion of an inconceivable intervention." "In a word, he does with them what he will, he obtains what he will, provided always that what he seeks be in accordance with their laws and their virtues."

The next chapter treats of "The Swarm," and here seventy-four pages are devoted to what he calls the "spirit of the hive," which actuates the bees in their great emigration, when they leave a well-provided and prosperous house for a fresh start in life in an unknown locality. It is also this "spirit of the hive" which, he says, causes all the marvellous actions that we, from our point of view and with our faculties, fail to comprehend. This is what he says about the swarm:

"It is the spirit of the hive that gives the hour of the great annual sacrifice to the genius of the race—the hour, that is, of the swarm, when we find a whole people, who have attained the topmost pinnacle of prosperity and power, suddenly abandon to the generation to come their wealth and their palaces, their homes and the fruits of their labour; themselves content to encounter the hardships and perils of a new and distant country. This act, be it conscious or not, undoubtedly passes the limits of human morality." Also on page 110, "They have abandoned, not only the enormous treasures of pollen and propolis they had gathered together, but also more than 120 pounds of honey, a quantity representing more than twelve times the entire weight of the population, and close on 600,000 times that of the individual bee. To man this would mean 42,000 tons of provisions." He then describes in poetical language the dreariness of the empty abode, which the bees take to without "being cast down by an ordeal before which every other courage would succumb."

The "Foundation of the City" treats of the construction of the combs, and the author thinks, with Lord Brougham and others, that the bees build hexagonal cells, and not that they are first circular, and that mutual interference produces the hexagons, which is the generally accepted theory of modern times. Comparing man with these insects, he says:—"Were we sole possessors of the particle of matter that, when maintained in a special condition of flower or incandescence, we term the intellect, we would be to some extent entitled to look on ourselves as privileged beings, and to imagine that in us Nature achieved some kind of aim; but here we discover, in the Hymenoptera an entire category of beings in whom a more or less identical aim is achieved."

There are also chapters treating of "The Young Queens," "The Nuptial Flight," "The Massacre of the Males," and "The Progress of the Race."

Throughout, the book is written in the some pleasing style, and we could do little justice to it without copious quotations. When we commenced reading it we could hardly tear ourselves away from it until it had been finished. At the end, is a copious bibliography, showing that our author had searched the best authors.

It need hardly be said that the work is as well printed and as nicely bound as all books turned out by Ruskin's publisher. It is a book that we can thoroughly recommend, and one that every bee-keeper should read, as we are sure that he will not fail to be charmed with it.

[The delay in publishing our Senior Editor's review of M. Maeterlinck's book is accounted for by the fact of Mr. Cowan being some 6,000 miles away from London. —W. B. C.]

LINCOLNSHIRE B.K.A.

ANNUAL SHOW.

The annual show of the above association, in conjunction with that of the Lincolnshire Agricultural Society, was opened at Brigg on July 18, and, so far as the quality and amount of honey and the number of exhibits of hives and appliances on the show-bench, it will easily rank as a "record." Seventy-eight dozen pounds of honey in glass jars and sections were staged, exclusive of two trophies, and four large exhibits of appliances and seventeen entries in the two hive classes, besides the usual classes for wax, observatory hives, &c. The only class not well filled was a new one, for honey "other than light." In this only three samples that came within this description being staged. The rest was light honey of such an even colour and consistency as to make the task of the two judges (Dr. P. Sharp and Mr. J. R. Truss) a most arduous one. Lectures in the bee-tent were given at intervals by Mr. W. Herrod to interested audiences, but the weather was so tropical that the audiences were not so large as otherwise would have been the case. The following is a list of the awards:—

Display of Honey in any form. Total weight not to exceed 250 lb.—1st and B.B.K.A. Silver Medal, A. W. Weatherhogg, Willoughton; 2nd and B.B.K.A. Bronze Medal, D. Seamer, Grimsby.

Twelve 1-*lb. Sections* (open class).—1st, Rev. J. R. Bradshaw, Hissay, York; 2nd, H. F. Beale, Andover, Hants; 3rd, W. Patchett, Caistor, Lincs.; 4th, H. Seamark, Willingham, Cambs.

Twelve 1-*lb. Jars Extracted Honey* (open class).—1st, T. Blake, Broughton, Hants; 2nd, W. Hatliff, Caistor, Lincs; 3rd, H. Pears, Lincoln; 4th, Mrs. Pinder, Stamford.

Twelve 1-*lb. Sections* (members of the Lincs. B.K.A. and Lincs. A.S. only).—1st (and silver medal Lincs. B.K.A.), A. W. Weatherhogg; 2nd, W. Patchett; 3rd, R. Godson, Alford; 4th, Rev. H. Goffe, Caistor.

Twelve 1-*lb. Jars Extracted Honey* (members of above two societies only).—1st (and silver medal Lincs. B.K.A.), A. W. Weatherhogg; 2nd, R. Godson; 3rd, W. Thompson, Doncaster; 4th, H. Pears.

Twelve 1-*lb. Jars Extracted Honey* (other than light-coloured).—2nd, R. Godson. (1st and 3rd not awarded.)

Cottagers' Class. *Twelve* 1-*lb. Jars Extracted Honey* (cottagers only).—1st, W. Hatliff; 2nd, W. Patchett; 3rd, J. Frankish, Grasby.

Twelve 1-*lb. Jars Granulated Honey.*—1st, Rev. H. F. Goffe; 2nd, D. Seamer; 3rd, E. Fisher, Welby, Grantham.

Bee's Wax.—1st, J. Berry, Llanwrst; 2nd, J. R. Herbert, Barton-on-Humber; 3rd, R. Brown, Somersham.

Observatory Hive with Queen and Bees.—1st, D. Seamer; 2nd, R. Godson.

Collection of Hives and Appliances.—1st, W. P. Meadows, Syston; 2nd, R. H. Coltman, Burton-on-Trent; 3rd, E. H. Taylor, Welwyn, Herts; v.h.c., Varty & Co., Colwick, Notts.

Complete Frame-hive (price not to exceed 25s.).—1st, W. P. Meadows; 2nd, R. H. Coltman; 3rd, W. P. Meadows; v.h.c., E. H. Taylor.

Complete Frame-hive (price not to exceed 12s. 6d.).—1st, W. R. Garner, Bourne; 2nd, W. P. Meadows; 3rd, W. P. Meadows; v.h.c., E. H. Taylor.—F. J. CRIBB (Steward of Bee Department), *Retford, July* 18.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

COMMENTS ON CURRENT TOPICS.

[4436.] *The "Guide Book."*—The most casual reader of your "Query" column will note that there is often manifest need for a good text-book. Three separate copies I have had of the "Guide Book" have gone—"lost, stolen, or strayed" by friends appropriating them, perhaps, with my connivance and consent. I have just received a new copy of the latest edition. Mr. Cowan probably would not like me to use his own paper to eulogise his own production, so I quote some words I wrote for the now defunct *Scottish Bee-keeper*:—"Get a good text-book. I know none better than Mr. Cowan's 'Guide Book.' It is sound, practical, concise, methodical, and thoroughly trustworthy. Every subject included in bee-keeping is handled briefly but to the point. The sound common sense of experience illumines every page. You feel in reading it that you can depend on every statement as coming from a master in the art."

Though quite familiar with every word it contains, I would not be without a copy though it cost double, and the very best advice I can possibly give to every budding bee-man is—Get a "Guide Book" and read, mark, and inwardly digest its contents, and you will find yourself on the high road to success. A novice starting bee-keeping without a good text-book is like a man blindfold groping his way and stumbling along with halting and uncertain steps, when, if the light were let in, he could walk securely. The "Guide Book" is such a light to lighten the dark places of bee-keeping and enable all to walk along the apicultural path with firmness, confidence, and comfort.

Good-tempered Bees.—It is, I think, indisputable that manipulation has a good deal to do with the disposition and temper of bees. Even when they are kept near roadsides I know of cases where they never show temper. My own are situated within twenty yards of the main road, which they have to cross from the heather, and just alongside of another much frequented side road, over which they fly from the clover fields. Add to this that the playground lies close by, with only an open fence between, and you have a fair test case I should think. Yet in all my experience no child nor any passer-by has ever been injured. The nearest hive is only five yards from the doorstep, and close up to a walk where the children are continually romping round the corner. The only time I think it necessary to issue a caution is just about the close of the heather harvest. For a few days then they find that discretion is the better part of valour. I had an object-lesson on the 17th, when no less than five colonies swarmed between 10.30 and 11.30 a.m., and *all* joined on a gooseberry bush within six yards of the public road. I was able to coax them into three lots, and separated them into the swarmed hives in the evening, killing six queens in the process. If they were vicious bees the work would have been a dangerous one. Since the operation I am inclined to go in for Mr. Jensen's insurance fund. Perhaps the shield, however, has a reverse side, as, if such a fund were in existence, it

might make careless manipulators more careless.

Scent or Sound?—When hiving a swarm lately, my platform not being at hand, I laid some pieces of wood sloping up to the flight-board, and threw a sack over these. The added weight of the bees creased this improvised hiving-board, so that there were some "hills and valleys" to surmount before many of the bees could reach the hive mouth. Nassonoff's organ became prominent in various corners of the cluster, and bees for a time scampered hither and thither. Soon, however, a "sound" came from the hive entrance, and the stampede in that direction became general. As the roar increased the race kept pace with it. Even those bees hitherto resting in the distant "valleys," out of sight of the entrance, heard the glad sound and toiled over height and hollow making for their new home. The scent was widely diffused; the sound was *concentrated*. So I concluded the latter was the true rallying "cry."

The Season.—Since my last comments the weather has been "ideal" from a bee-man's point of view. My best hive has five racks on, four all but finished, and one off, while my English swarm, got on June 7, has four racks on, all occupied by bees, and the two lower ones sealed, with the exception of the outside rows. My only accepted swarm is working actively in two racks, the lower one all but ready to take off, and the parent hive has two racks well forward. These are but samples. Heather was actually in bloom here on July 15th, and bees are working actively on it now (20th). They seem as yet to share their regards between it and the white clover, being reluctant to discard the old love too hurriedly for the new. If we can get anything like good weather at the heather, the season will be a grand one. Truant swarms are a nuisance this year, and I have had my first experience in that line. Churches seem to be favourite rendezvous for these.

Smoker Fuel.—Dipping brown paper in saltpetre is an excellent means of keeping the fuel alight, and I am thankful for the suggestion. It, however, fouls the funnel very much more with a soft, greasy substance not easily removed. Old moleskin is an excellent fuel to use, and it never goes out. I am trying the carbolised cloths as an experiment. I see our friend at Beedon still pins his faith to them. I have hitherto used them only when driving skeps.—D. M. M., *Banff, N.B.*

SOME OBSERVATIONS ON TEMPERATURE.

[4437.] The hives of most bee-keepers are exposed to the direct rays of the sun for at least some portion of the day; perhaps it would not be too much to say that a large majority of hives are so situated that they bask in the full sunshine the whole day, therefore the following observations, culled from a number which I have been taking during recent spell of hot weather, may be of use to some readers of the JOURNAL. Paradoxical as it may appear, my observations were undertaken with the object of showing that bees may be kept comparatively cool during excessively hot weather by the simple plan of covering them with plenty of blankets or cushions. For this purpose I covered my bees first with a cotton cover, then a thick close felt, and upon this two cushions, each made of four thicknesses of "wadding" in calico covers.

These cushions I use because wadding is a very excellent non-conducting material, and has the additional advantage over *woollen* materials that the wax-moth does not attack it. One thermometer was slipped under the felt, immediately above the calico "quilt," while the other was placed upon the top of the cushions. There were at the time two racks of sections upon the hive, with a space of 6 in. between the top of section-rack and the roof. The hive is double walled, with a full 2-in. air space between the outer and inner walls. The outer walls and roof are of ⅝-in. wood, and the hive is painted white. On the day in question (July 3) the sun was full on this particular hive by 11 30, and was off it again about 2.30.

Hour of Day.	Temp. above Cushions. Deg.	Temp. under Cushions. Deg.
9 a.m. (hive in shade)	71	82·4
10 a.m. ,, ...	75·2	82·4
12 noon (full sunshine)	95	82·4
12.45 p.m. ,, ...	96·8	80 6
1.45 p.m. ,, ...	96·5	78·8
9 p.m.	66	84·5
10 p.m.	60	86

The slight fall of temperature in the hive during the middle of the day I attribute to the absence of the "foragers," and the rise again at night to their return and to the active work going on in the sections. At 12.45, when the temperature above the cushions was 96·8, I also noted the temperature in the sunshine upon the *outside* of the roof. This was 98 deg. This shows how little protection from a fierce sun is afforded by one thickness of wood, as in a single-walled hive; and it will be obvious how useless it would be to try to protect bees contained in such a hive from excessive sun-heat by covering them up with cushions. The question may be asked: What is the particular range of temperature in which bees work to the best advantage? I do not know, but, curiously enough, I found three of my hives on the same day had a temperature of 82·4. Two of them had two racks of sections about equally advanced, while the third had a rack of sections below a box of shallow frames, which were nearly complete. I have no doubt that the temperature on the top of the topmost rack will depend partly upon its state of completion.—G. S. NEWTH, *Wallington.*

THE UBIQUITOUS BEE.

[4438.] After reading the article headed as above in your issue of July 18 (4429, page 281), I am tempted to give my experience in that line. In my wanderings after big game I have come across bees and honey in little-travelled parts of the world. It is only lately that I have taken up bee-keeping, and the interest I took in the busy bee was entirely on account of the resulting honey, of which I was very fond. I found bees very plentiful in "far Cashmere" the natives there going in for a rather primitive form of bee-keeping. Their hives were made from short lengths of tree trunk split in halves and hollowed into the shape of a cylindrical box with a small pointed opening or nozzle at one end. This nozzle is put through a crack or hole in the log-wall hut of Cashmere dwellings, which are very much in the style of a Swiss mountain chalet; but how the honey is "taken" or the bees are induced to start in these boxes I have no idea. In some places food was very scarce, and, nothing loth, I made the bulk of my meals off honey pure and simple—eating it in the comb, and often alone. The combs were generally round, and were brought by the natives for sale on plates, two or three combs lying one on the other. Again I met the honey bee while on a quest after lions in East Africa. Here the bees were entirely wild, and the honey was "taken" by cutting down the hollow tree they were found in and smoking the bees. I was led to one tree by one of those curious little birds called by the natives the "honey bird." My men called me out of the tent one day to say that a honey bird was on one of the trees near camp, and the little brown bird, not so big as a sparrow, certainly did lead us, flying on ahead short distances from tree to tree until it arrived at a small withered thorn, which the men cut down, building a fire while I bravely retired to a distance, and eventually producing a small quantity of very dark honey in the comb. I notice that great elephant hunter, Mr. A. H. Neumann, relates how, some way south of the above country, near Lake Rudolf, he came across native hives on the same plan as those I had seen in Cashmere, perched up in the branches of the trees, and from his account honey appears to have been very plentiful. In India the bee is very much feared indeed. Many instances of fatal attacks by these insects are known—in fact, it is not at all an uncommon event. The reason for this seems to be that this particular kind—building its nests in the open, by the way—will follow one for many hundred yards if their nest is disturbed, and they seem generally to be extremely pugnacious and pertinacious. I never had the curiosity to go near enough to one of their nests to examine it. They do not allow, apparently, anything to move unchallenged within a considerable radius of their hives, and I well remember the commotion that was raised when it was discovered that there was a nest of these inhospitables within the belt of forest we intended beating for deer.—GEORGE CAMPBELL, *Woodside, Ainsdale, July* 21.

SOME ESSEX NOTES.

"FAULTY FRAMES."

[4439.] Under this heading, in B.B.J. of July 4, is a letter signed "Ian Anderson" (4417, page 266). I am an older hand in the pursuit than your correspondent, yet I do not say "Serve you right," but would point out to beginners that they are indebted to Mr. Anderson, as writer of the letter referred to, for relating his unpleasant experience, so that they may have the chance of benefiting by it. The bee-keeper who has any liking for doing things well will always be able to learn something, both from his own failures and the failures of others. I mentioned this same thing some twelve months ago in our JOURNAL. It is not the frames at all that are "faulty," I would say; frames "improved" to be a help are sometimes found to be a hindrance. It is not only bee-keepers of short experience who use the "self-fitting" frames without taking the trouble to nail them together, but others who should know better make the same mistake to a considerable extent too. Persons of such makeshift habits never make good bee-keepers, and nobody else in the bee-world is so likely to have vicious bees. I was recently asked to examine a colony of bees for a person who has kept a number of hives for some years, and not a single frame could be lifted out; to be removed at all, it had to be done piecemeal.

Swarm Leaving Hive.—Your correspondent M. D. Hill (2680, page 267) seems to have had a sample of what is sometimes called "buying one's experience," through doing something trifling it may be in itself; indeed, it may be so small that the doing of it was unnoticed by himself, but just one of those trifles that experience enables us to avoid, or do it a better way. Of course we have to gain our knowledge, even if we buy it, but when we put our knowledge into practice it must be applied intelligently or else it will not contribute much to the success or failure of our bee-keeping. A few days ago I met a beginner who by rough usage had lost the bulk of the bees forming a swarm. By the time the bees were settled in the new hive there were only enough left to cover two combs. I may add that he does not possess that indispensable thing for beginners "a reliable text-book."

Foul Brood Legislation.—This seems difficult to obtain, but if it is impossible at present to secure the legal assistance we are so much in need of by legislation, and while biding our time, why not consider the next best thing to do? The Council of the B.B.K.A. may see their way to appoint a sub-committee to

take evidence if considered necessary, and make recommendations, so that if we cannot have what we want we may at least have more power than is at present available for dealing with an enemy the nature of which only those whose business frequently forces them into contact with it can fully comprehend. It seems to me there are several ways in which the Council of the B.B.K.A. could make more use of its present powers so far as regards its affiliated associations, and individuals could then be endowed with more authority. Personally, I find it more difficult to make people understand the serious nature of foul brood than it is to deal with the disease itself. Even men who allow themselves to be elected to prominent positions in connection with the bee-industry seem incapable of dealing effectually with foul brood and ridding themselves of it. I think every bee-keeping association should be induced to connect itself with the B.B.K.A. or parent body, the conditions being that the associations shall exist for the general good and advancement of apiculture. At present it is quite possible for bee-keeping to be hindered rather than advanced by the existence of a so-called association of bee-keepers. I think we are fortunate in Essex in having an association which has continued to do the same good work that was begun over twenty years ago, and still recognises that there is the same work to be continued. Doubtless there are many small associations which would find it difficult to pay the affiliation fee; but to meet this I think a new rule could be be introduced admitting such small associations as associated societies.

Next to the inability of bee-keepers to grasp the serious nature of foul-brood I find that keeping more colonies than can be thoroughly well managed is the greatest agent in spreading the disease. Of all the apiaries that I can remember where foul-brood has been a trouble to deal with, the reason has been (and most of the owners have freely admitted the fact) that they had more stocks than, with their capacity and the time at disposal, they could manage well. Thoroughness is essential to success in bee-keeping, because the results depend upon a few short weeks of honey gathering. If we keep more stocks than we can work at full pressure, even if disease has not to be dealt with, the results from individual hives will be far smaller than if more thorough management was possible. —W. Loveday, *Hatfield Heath, Harlow, Essex, July* 15.

THE SEASON IN THE MIDLANDS.

[4440.] The bees are doing exceedingly well here. It is many years since I was so busy supering and extracting, and I have only just succeeded (single-handed) in providing proper super-room, as each day the bees "roared" for more. I am a "city bee" myself, and have found that a small apiary of thirteen hives a good limit for early morning and evening work, but these are my happiest hours. The white clover first appeared on June 15, and was well, but briefly, worked on. Immediately mowing was done the drought forced a prolific blooming of "aftermath" flowers; then came the limes, which here were in full bloom the first week in July (very early), and although the trees were never more loaded the dry atmosphere gave the blooms a short life. The willow-herb or rose-bay(*Epilobium*)seems to have stood the drought best, and bees have worked largely on this, which is very common about here. Brambles flowered well, but are now mostly setting berries. Some neglected market gardens near present blue sheets of cornflower, among which the bees forage in large numbers. Fortunately, all my queens are yearlings, and having so far prevented any swarming, I expect a record "take." Four years this autumn my little apiary was demolished by foul brood, but it is now entirely free from disease, thanks to Mr. Berry's plan and the adoption of "W.B.C." hives, which are the only ones that can be properly overhauled when suspected. With this pattern hive I will defy "F.B."—Suburbia, *Perry Bar, near Birmingham, July* 20.

KINCARDINESHIRE BEE-NOTES.

[4441.] We have in this county had most favourable weather for the bees, and there is every indication that there will be a rich harvest of clover honey—the best for many years. Swarming has in many instances been too prevalent. On the 8th inst. I had three swarms come off within ten minutes of each other, with the result that they all got mixed, and finally settled on one bush. I got three straw skeps and filled each of them, and as I wished to put back the swarms I proceeded to search for the queens. After long and patient "stirring" I succeeded in securing all three. I concluded that the respective swarms would then return to their mother hives, but not so. One of them went back and joined part of another swarm which had been left on the bush where they originally clustered. I had again to divide, and as it was getting late I found they were too restless to settle for the night. I therefore resolved to place a skep with its contents on each of the hives that swarmed. This done, I shut all apertures and forced the bees to go through the brood-nest before getting out. I left the skeps thus for two days, and then shook out any bees in them, and since I have had peace with the three stocks in question. Did I do right in so placing the skeps? If I had left them till morning, would the bees have returned to their respective parent hives? [Yes.—Eds.] I had several other swarms, and instead of killing the queens I gave them a small quantity of bees with some three-comb bar-frames, and this

makes a nucleus in a small hive. I hope this plan will prove successful?

Many complaints are being made in a certain district of this county where a person has allowed the bees in his frame-hives to almost die out, but still keeps the entrances of the empty hives open, with the result that a number of his neighbours' swarms have landed in his hives. No satisfaction can be got from the person in question, but bee-keepers are annoyed at this contemptible conduct. Is there any statute law which would reach this individual, or is the only redress an action in the civil court?—"G.," *Stonehaven, N.B.*

"RECORD" WEIGHT OF SHALLOW-FRAMES.

[4442.] Referring to the mention in BEE JOURNAL of record weight for a box of shallow-frames (4426, page 276) of issue for July 11, I think there is nothing remarkable with regard to our friend Mr. Goodrich's seventeen shallow-frames containing 68 lb. of extracted honey. I last week took off two supers containing sixteen shallow-frames, and the net weight of extracted honey from the same was 74 lb. I think this is rather better than my friend Mr. Goodrich's return.—A. THORPE, *Wistaston, Crewe, July* 16.

TEACHING BEE-KEEPING IN SCHOOLS.

[4443.] May I add to your answer to "A. Bucknell (Birmingham)" on page 269 of B.J. for July 4 that Messrs. E. J. Arnold & Son, Limited, Leeds, publish a case of natural history specimens entitled "No. 2, Bee Life." This case is specially prepared for teaching bee-keeping in schools. We have been using one continuously during the past nine weeks during our van tour with great success.—D. W. BISHOP-ACKERMAN, *Hon. Sec., Berks B.K.A., Reading, July* 16.

THE HONEY SEASON.

A "RECORD" ONE-POUND SECTION.

[4444.] I have just taken off an ordinary two bee-way section which weighs 1 lb. 4 oz. Is not this almost a record? The season with me will be a very good one as I shall take over 200 lbs. all in sections from four hives, nearly all of which is already sold at 1s. per section.—FRED. GIFFORD, *Brentford, July* 18.

SWARM IN A SIGNAL LAMP-POST.

[4445.] It may be interesting to some of the readers of the BRITISH BEE JOURNAL to hear that still another "strange place" for a swarm of bees to take possession of has turned up. The distant signal to Linley station is nearly 40 ft. high from the metals, but in the lamp of this post a swarm weighing nearly 6 lb. had made their home, and remained there several days before being found out. Luckily, the lamp was on a sliding-rod, which could be wound up and down; for on bringing the lamp down the rod it was quite an easy job to drive the bees into a skep, which a friend of mine and myself did. I am glad to say the "lamp alighters" are doing well on ten frames of foundation, and working at the limes "like mad!"—THOS. HENTON, *Norton by Shifnal, Salop, July* 12.

Queries and Replies.

[2693.] *Compensation for Loss of Swarms in Transit.*—Having found you so courteous in replying to queries I have previously asked, I am encouraged to apply to you in my present trouble. My case is briefly as follows:—Replying to an advertisement in the B.B.J. of swarms at 12s. 6d. each, I sent an order, with cash. It was more than three weeks before I heard anything, when I got a telegram on Monday, July 15, saying "Fine swarm sent Sunday." The swarm came the same afternoon, but on examination the bees were found to be all dead, having been drowned! in fact, the box was sodden with water. I immediately went to the Express Company, who were carriers, and they said that "bees are sent at owner's risk," but they are going to write to the consignor to ascertain the facts of the case. What would you advise me to do? Can I make the railway company pay, as it must have been through some gross carelessness on their part? Or is the advertiser responsible for having sent them Sunday?—A. R. LOCKWOOD, *St. George, Bristol.*

REPLY.—We do not see how you can make a railway company responsible for bees dying in transit. Are you sure the bees were "drowned"? We ask this because when bees are insufficiently ventilated, and are in consequence smothering for want of air, they disgorge the contents of their honey-sacs when falling in a heap to die. This gives them just the appearance of being soaked in water, and the point would need settling in fixing responsibility.

[2694.] *Dealing with Brood-combs Filled with Honey.*—I shall feel obliged for your advice as to what I ought to do under the following circumstances:—1. I find that my bees have almost entirely filled several of the outside combs of the brood-chamber with honey—indeed, there seems to be very little space left for the queen to lay. I ought, I think, to extract these filled combs and return them, but will the bees not fill them again if placed outside the brood-nest? Ought I not to place them in the centre or so of it? You might kindly advise me fully what to do. The bees are working well in supers, but they

are not entirely sealed over. 2. Will the honey extracted from these combs mentioned keep? I have no extractor, but am sending for one for the purpose of setting matters right, as I mean to send my bees to the heather, and fear the population will dwindle if no more brood-space is given. My swarming was all over by the middle of June—fully three weeks before others here. Bees strong, and one hive that threw two swarms is storing well in shallow-frames. I began bee-keeping last season, but got no honey. Tasted my own honey last week for the first time.—M. M. M'C., *Brae Head, Doune.*

REPLY.—1. In any case we should extract the contents of outside combs at once. It is quite a common practice with good bee-men to put the outer combs of brood-nests through the extractor if the bees fill them with honey to the exclusion of brood. 2. Yes, if it is fairly ripe.

[2695.] *Marketing Dark Honey.*—A considerable amount of honey has been taken in this district of a very dark colour, sealed *white*. I am afraid it has, to a large extent, been gathered from the oak trees. My own sections are full of it. I should be exceedingly obliged if you would tell me if there is any legitimate means of disposing of it, and, if so, what price ought to be asked? I can, of course, forward a sample to you if you deem it necessary. I have just taken twenty-eight sections, the total weight of which is 28 lb. 13 oz. It will be most disappointing if such fine sections have to be wasted.—H. H. K., *Ambleside.*

REPLY.—We could give no opinion on the honey without seeing a sample.

[2696.] *Swarm Catchers: Are they Efficient?*—My apiary is situated some distance from my residence, and, like some of your correspondents, my bees have had the "swarming fever," and I fear that I have lost some valuable swarms this year; therefore I should very much like to have the opinion of some experienced bee-keeper as to the utility of "swarm-catchers."—J. R., *Anglesey, July* 17.

REPLY.—We think it is the opinion of most experienced bee-keepers that no really effective and reliable "swarm-catcher" has yet been devised.

Echoes from the Hives.

Icklesham, Rye, Sussex.—We are somewhat behind here this season, through the late spring. By the end of May last year bees were working in two tiers of sections, and this year they are three weeks later. Just now, however, they are in splendid condition. I never saw the white clover in better bloom while it remained in flower, but every day the foraging ground gets less with the mowing-machines at work. We have very few limes and not much heather, but the harvest will be quite up to last year's crop from white clover. I had a rather ticklish job on June 27, getting a vagrant swarm from a hollow tree-stump. They had been there about two weeks, so, being a woodman, I took my axe and saw with me. I first tried driving, but there being no hole in the top of their rustic hive, I soon had the stump cut down. The bees had built six very nice slabs of comb, and there was brood in all stages. The queen I found, and placed in skep, and the rest soon followed. I am not quite sure what race they are: the queen had five very distinct yellow bands.—HENRY CLARKE.

Bee Shows to Come.

July 25, 26 and 27, at St. Helens.—Royal Lancashire Agricultural Society's Show. Bee-keepers' Section. For Honey, Hives, and Appliances.

July 29, at Caergwele Castle Flower Show.—Bee Lectures, Honey Classes. Schedules from H. D. Davies, Abermorddu, Wrexham.

July 31, at Henbury, Bristol.—Honey show of the Henbury District B.K.A. in conjunction with the Henbury Horticultural Society's show.

August 2, at Exeter.—Annual Show of the Devon B.K.A., in conjunction with the Devon and Exeter Horticultural Society. Twelve classes for Bees Honey, &c. Schedules from E. E. Scholefield, Hon. Secretary, Devon B.K.A., Heathfield, Chudleigh, South Devon. **Entries close July 27.**

August 5 (Bank Holiday) at Lichfield.—Honey Show in connection with that of Lichfield Floral and Horticultural Society. Open Classes for Light and Dark Honey and Wax. Two classes for members of the Staffs. B.K.A. and two open classes for Cottagers. Medals and good money prizes. Schedules from F. J. Hall, City Station Wharf, Lichfield.

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society. Schedules from Hon. Sec., Mr. E. C. S. Stow, Hessle, Hull. **Entries close August 1.**

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes**; one for single 1-lb. jar extracted honey. Schedules from C. J. Cooke, Edgefield, Melton Constable. **Entries close July 27.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 7, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show. Seventeen classes for honey and bees (including classes for single 1-lb. section and single 1-lb. jar, with no entry fee. Schedules from J. P. Inkpen, Neston, Corsham, Wilts.

At Llanberis.—Honey Show in conjunction with Llanberis Horticultural Show. Open class for single 1-lb. jar Extracted Honey. Free entry. Prize complete frame-hive. Schedules from R. Jones, Llanberis. **Entries closed.**

August 7, at Marlow. Show of Honey, Hives, and Bee Appliances in connection with the Marlow Horticultural Society. Valuable Prizes. Schedules from the Hon. Sec., A. D. Cripps, Marlow, Bucks. **Entries close August 3.**

August 7, at Macclesfield.—Adlington and District Agricultural Society's Show. Four open classes for hives, six sections, six 1-lb. jars, and wax. Schedules from W. J. Trotter, 4, Church-street West, Macclesfield. **Entries close July 22, or at double fees July 27.**

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers, including special class (six prizes) open to all (with free entry) for single 1-lb. jar extracted honey. Six prizes, 20s., 10s. 6d., 7s. 6d., 2s. 6d., 2s., and certificate. Schedules from Robt. Hefford, Hon. Sec., Kingsthorpe, Northants. **Entries close August 1.**

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition. Open Classes for Bees, Hives, and Extracted Honey. Schedules from Mr. J. P. Phillips, Spetchley, Worcester, Acting Secretary W.B.K.A. **Entries close August 1.**

August 8, at Foys Chetnole.—Yetminster and District B.K.A. Annual Show of Bees, Honey, and Beeswax. Thirteen classes (including three open classes). Entry free for single 1-lb. section, 1-lb. jar extracted honey. Schedules from G. Leeding, Bradford Abbas, Sherborne, Dorset. **Entries close August 3.**

August 15, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 10.**

August 15, at Abergwili, Carmarthenshire.—Abergwili Horticultural and Agricultural Society's Show. Open class for single 1-lb. jar extracted honey (entry free). Prizes, 10s., 7s. 6d., 5s., and 2s. Particulars from Thos. Rice, Secretary, Abergwili.

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes (eleven open to all). Increased prizes and medals. Schedules from F. B. White, Hon. Secretary, Marden House, Redhill. **Entries close August 1.**

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 21 and 22, at Newcastle-under-Lyme.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show. Fifteen classes, including open classes for Honey and Appliances. Schedules from Ellis E. Crisp, Secretary S.B.K.A., 8, Jesson-street, Coventry. **Entries close July 27.**

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt.)

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A NOVICE (Lindley).—*Honey Sample.*—The honey sent is of good quality though a little thin, owing, no doubt, to the warm weather. It is good in colour, aroma, and flavour, and is mainly from white clover.

"H." (Glos.)—*Honey Sample.*—Yours is an excellent sample of honey, good on all points. It will do very well for the show-bench.

G. H. MITCHELL (Llandaff).—*Keeping Ants out of Hives.*—An effectual remedy for this trouble is sold by Jas. Lee & Son, 10, Silver-street, High Holborn, London, W.C. It consists of an iron "shoe" (for fixing on hive legs) with a cup, into which latter a little oil is poured.

JOHN ARMSTRONG (Coarwood). — *Foreign Races of Bees.*—Referring to the book you, name, can you give us the date of publication? We fear it is an out-of-date work and certainly the bees named are not now imported into this country.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

THE RECTOR (Berkhamstead).—There is foul brood in comb sent.

C. (Cornwall).—Why your friend "cannot understand the bees' desertion of the hive because of the quantity of new comb and honey in it" is a puzzler to us. The piece of comb sent is not only very old and black, but it is absolutely rotten with foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FINE CLOVER SECTIONS FOR SALE. Also Extracted. F. GARNETT, Well, Bedale, Yorks. G 89

HEALTHY SWARMS during August, 6s.; packing free. ALFRED GOULD, Henley-in-Arden, Birmingham. G 96

HONEY LABELS, new design. Send stamp for sample. GUEST, Kings Norton, Birmingham.

EPILOBIUM AUGUSTIFOLIUM, hardy perennial, plant in October, 12s. dozen. BADCOCK, Florist, Bexhill. H 1

HONEY JARS—1-lb. screw-cap, 17s.; tie-over, 12s. 6d. per gross, on rail. JAS. DYSON, Stainforth, Doncaster. G 98

SELLING-OFF my BEES with Appliances, Bee-house, Extractor, Ripeners, Drawn-out Combs, &c. PAYNTER, Pen Nevis, Par Station, Cornwall. G 92

OVERSTOCKED.—SUPER FOUNDATION, 2s. 3d.; WEED BROOD FOUNDATION, 2s. lb. W. LONG, North-road, Mere, Wilts. G 94

HONEY.—New EXTRACTED, 50s. per cwt. Carriage forward. Sample, 3d. OWEN BROWNING, The Apiary, King's Somborne, Hants. G 90

SPLENDID ENGLISH HONEY, 6½d. and 6d. per lb. Cash or deposit. Sample, 2d. ALBERT COE, Apiary Hall, Ridgewell, near Halstead, Essex. G 88

THREE STOCKS of BEES FOR SALE, in excellent frame-hives, 20s. each. Also several good HIVES, 6s. 6d. each. AVERY, Ripley, Surrey. G 87

PURE HONEY FOR SALE in 14 and 30-lb. tins, 6½d. lb., tins free. Cash or deposit. J. NIGHTINGALE, Doddington, Cambs. G 86

WANTED early in August, 10 or 12 LOTS of DRIVEN BEES. Quote prices for placing on rail or delivering at Goathland Station, Whitby, to Rev. R. N. LAMB, Burton Pidsea Rectory, Hull. G 93

WANTED, a CUSTOMER to take my new Honey Sections and Extracted. Cash or deposit. J. TREBBLE, The Apiaries, Romansleigh, South Molton. G 95

FEW good heavy HEALTHY STOCKS BEES in Skeps with 1901 Home-bred Cyprian, Italian, and Carniolan fertile Queens, 10s. each. SPEARMAN, Colesbourne, Cheltenham.

HOWARD'S NUCLEUS HIVE and QUEEN NURSERY, perfect condition, 10s. Dozen special tall Show Jars, 3s. 3d. GLOSSOP, Ambergate, Derby.

BEES FOR SALE.—Six very strong STOCKS, with young queens, excluder, and one super, 25s. each; five large Skeps, strong in bees, with young queens, 12s. 6d. each; 3-comb Nuclei, with young queen, in returnable hive, 12s. 6d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 6s.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d.; swarms from 10s. 6d. Stocks and Nuclei headed by any variety queen at fair prices. Customer writes:—"The Italian nucleus I had from you got on quickly. . . . supered June 16th." Particulars E. WOODHAM, Clavering, Newport, Essex.

THREE-FRAME NUCLEI, with fertile Queens from imported Cyprian, 8s. 6d. WOOSNAM, Newton-Abbot. G 80

STRONG, healthy driven BEES, with Queen, end of July, 5s. per lot. Boxes returned. MORETON, Expert, Leigh, Worcester. G 81

25TH YEAR.—Small SWARMS with Reliable Queens, 5s. 6d. Package free. Queens, in introducing cage, 3s. 9d., delivered. ALSFORD, Expert, Blandford.

DAFFODILS.—Can spare few Bulbs from "Lordswood's" collection. Send for list. SANDS, Rednal, Barnt Green. G 70

PURE EXTRACTED light coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

WANTED, new SECTIONS, first quality, clear, pale and up to weight. Any quantity prompt cash. W. CHILTON, The Apiaries, Polegate, Sussex.

WANTED, EXPERT for Summer Tour in Hampshire. Apply, quoting terms, to E. H. BELLAIRS, Hants B.K.A., Christchurch.

Prepaid Advertisements (*Continued*).

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BREERETON, Pulborough, Sussex.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3⅛ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 0d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

HEALTHY June & July **SWARMS**, 3 lb. to 6 lb. at 2s. 6d. per lb. 10 lb. Swarms, 22s. (100 READY.)

SENT ON APPROVAL.

Safe arrival guaranteed.

Stocks, Nuclei, Imported Foreign Queens (Fertile and Virgin), English Queens, &c., supplied at reasonable prices.

Catalogue of Bee and Poultry Keeping Appliances post free.

SPEARMAN, Colesbourne, Cheltenham.

The Largest and Cheapest Depôt in the South of England.

WHY NOT BUY YOUR SKEPS DIRECT FROM THE MAKER?

You may buy first-class skeps bound with stout new cane, at **1s. 3d., 1s. 6d., 1s. 9d.,** and **2s.** each. Cash with order; 5% discount. Wholesale prices on application. S. J. COX, Bee-skep Maker, 12, Arwenack-street, Falmouth, Cornwall.

NOTE OUR SPECIAL LINES!

"W.B.C." Hives, from 17/- to 25/- each.
"W.B.C." Non-Swarming Hives, 24/- each.
Improved Cottager's Hive, with Zinc Roof, 12/6 each.
"Interchangeable" Hives, 15/6 and 14/6 each.
These Hives can be worked with Frames Parallel or at Right Angles to the entrance, as desired.
Best Snow-white Sections, 2/- per 100; Split Top, 6d. extra.
Best Quality Standard or Shallow Frames, 1/2 per doz.
"W.B.C." Ends, ⅞", 30, post free, 1/-; 3/6 per gross, post free.
Zinc Queen-Excluders, 17" by 15", 6d. each; post free, 9d.
Cellutoid " " " 1/4 each, post free.
Best 1-lb. Nickel Screw-cap Bottles and Cork Wads, 20/- gross.
Improved "Derby" Extractor, 13/6 each; or with Gearing, 20/- each.
The 20th Century Extractor, 22/- each
" " " with genuine Bicycle Chain Gearing, 32/- each.

R. H. COLTMAN, Bee Appliance Maker,
49, Station-street, BURTON-ON-TRENT.

Editorial, Notices, &c.

ROYAL LANCASHIRE AGRICULTURAL SOCIETY.

SHOW AT ST. HELENS.

The most successful show of honey, &c., ever held under the auspices of the R.L.A.S. took place at St. Helens on July 25, 26, and 27. So numerous were the entries that the space provided in the honey-tent had to be doubled a few days prior to the show. There were 137 entries for hives, appliances, honey, and interesting exhibits. The quality of the season's produce was excellent, especially so in the two classes for extracted honey, where the competition was most keen; remarkably so in the "open class," as the liberal distribution of commend cards attests. Indeed, it may be truly said that, with one or two exceptions, every exhibit staged was worthy of notice. The honey trophies were all neatly displayed, and tastefully decorated with flowers and ferns.

Mr. Frederick H. Taylor, officiated as judge and made the following awards:—

Twelve 1-*lb. Sections* (22 entries).—1st, Rev. J. R. Bradshaw, Hessay, York; 2nd, W. Woodley, Beedon, Newbury; 3rd, W. Patchett, Caistor, Lincs.; v.h.c., R. Dutton, Terling; H. F. Beale, Andover; J. Sopp, Wallingford; and J. Pearman, Derby; c., W. Hambly, St. Germans; R. Allen, Bicester; Rev. E. R. Iremonger, Clatford.

Twelve 1-*lb. Jars Extracted Honey* (47 entries).—1st, R. Brown, Somersham; 2nd, T. H. Plowright, Brackley; 3rd, W. Hatliff, Caistor; v.h.c., Miss M. Francis, Andover; Rev. E. R. Iremonger; W. Petty, Stockbridge; L. Quayle, Glen May, Isle of Man; John Barrett, Formby; h.c., C. Dunn-Gardner, Fordham Abbey; J. Cragg, Great Eccleston; W. Woodley and Rev. H. F. Goffe, Caistor; c., R. Dutton; H. Fenney, Lea Green, Lancs.; R. Fell, Tarleton; John Helme, Weobley; W. Loveday, Harlow; P. Blundell, Weedon.

Twelve 1-*lb. Jars Extracted Honey, gathered in the County Palatine* (24 entries).—1st (and Lancs. B.K.A. silver medal), R. Rymer, Hesketh Bank; 2nd, W. Forrester, Huyton; 3rd, Clarke Bros., Garstang; v.h.c., W. A. Cook, Hesketh Bank, John Barrett; h.c., T. Shuttleworth, Farnworth; J. Cragg, Great Eccleston; and J. Stirzaker, Poulton.

Twelve 1-*lb. Sections, collected in the County Palatine* (13 entries).—1st (and Lancs. B.K.A. bronze medal), Geo. Rose, Liverpool; 2nd, J. Paley, Freckleton; 3rd, T. Ormisher, Ormskirk; v.h.c., W. Forrester; h.c., J. Jones, Carnforth.

Trophy of Honey (5 entries).—1st (and B.B.K.A. silver medal), Wm. Forrester; 2nd (and B.B.K.A. bronze medal), R. Brown, Somersham; v.h.c., Wm. Dixon, Leeds.

Collection of Hives and Appliances (3 entries).—1st (and R.L.A.S. silver medal), George Rose, Liverpool; 2nd (and R.L.A.S. bronze medal), E. H. Taylor, Welwyn; 3rd, George Rose.

Suitable Outfit for a Beginner, price not to exceed £1 10s. (7 entries).—1st, George Rose; 2nd and 3rd, E. H. Taylor; v.h.c., Geo. Rose.

Complete Frame-hive (7 entries).—1st, Mottram & Turner, Manchester; 2nd, George Rose; 3rd, E. H. Taylor; h.c., George Rose and E. H. Taylor.

Honey Extractor (6 entries).—1st, E. H. Taylor; 2nd and 3rd, George Rose.

Interesting Exhibit in Bee-culture (3 entries).—1st (and silver medal), Wm. Dixon; 2nd (and bronze medal), E. H. Taylor.

Lectures and demonstrations were given in the bee-tent under the auspices of the County Council by Mr. Frederick H. Taylor (1st Class Expert B.B.K.A.), Fallowfield, Manchester, and drew large audiences.

The weather during the first two days was extremely disappointing, heavy rain militating against the attendance, and some damage was done to exhibits in the honey-tent.

HANTS AND ISLE OF WIGHT B.K.A.

(SWANMORE BRANCH.)

The annual exhibition of the above Association was held at Swanmore Park on July 24 in connection with the Bishop's Waltham Horticultural Society's Annual Show, and proved to be one of the best of the long series which have been held under the auspices of the Swanmore branch of the County B.K.A. The quality of the honey was excellent throughout, and the Rev. W. E. Medlicott, though a veteran in judging, had no little difficulty in coming to a decision. A total of 1,070 lb. of honey was staged, being something like 200 lb. over that of last year.

First prizes for principal exhibits:—

MEMBERS ONLY.

Twelve 1-*lb. Sections.*—Miss Martin.

Six 1-*lb. Sections.*—F. Sparkman.

Three 1-*lb. Sections.*—E. Ainsley.

Single 1-*lb. Section.*—E. Ainsley.

Display of Honey.—W. G. Hedges.

Twelve 1-*lb. Jars Extracted Honey* (*light*).—E. Ainsley and W. G. Hedges (equal).

Twelve 1-*lb. Jars Extracted Honey* (*dark*).—E. Ainsley.

Six 1-*lb. Sections and Six* 1-*lb. Jars.*—G. Hedges.

Three 1-*lb. Sections and Three* 1-*lb. Jars.*—G. Hedges.

Single 1-*lb. Section and Single* 1-*lb. Jar.*—Miss Martin.

OPEN TO MEMBERS OF H. AND I. OF W. B.K.A.

Twelve 1-*lb. Sections and Twelve* 1-*lb. Jars Extracted Honey.*—1st, E. Ainsley; 2nd, F. Sandall; 3rd, E. Hedges.—*Communicated.*

[We do not quite understand there being one prize only awarded in the first ten classes named above.—Eds.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

TAKING BEES TO THE HEATHER.

[4446.] In taking my bees to the moors last week I was surprised to find the heather in such forward condition. The man in whose charge I left the hives informed me he had never known the season to be so early. There was a general show of bloom, some bunches being nicely out, with an indication it would all be in full bloom by the time this is in print. I am afraid those who live some distance away from the moors will be unprepared for such a forward season, and may in consequence miss the early part of the honey-flow. I was fortunate this year in having fine weather for my midnight trip, but last year everything seemed to be against me, and for the benefit of those who go in for such excitement I will relate my experience. Not having horses of my own, I am dependent upon friends, and as the horses are, as a rule, busily engaged during the day, the journey has to be arranged some time in advance, so that the work may be fitted in and the horses pretty fresh for the distance of over twenty miles. Having got all ready, a start was made about 9.30 in the evening, in the face of heavy rain and a strong wind, which, it was thought by those best competent to judge, would soon pass over, but which, as events proved, was not to be. There were two loads, with drivers and myself, and after we had travelled a mile our faces seemed to be completely lacerated, and the feeling thereof anything but pleasant. All went as well as could be expected under the circumstances for the first six miles, when, hearing an immense noise at the rear of the second cart, on which I was riding, I at once alighted, just in time to see something glide into the hedge bottom, which, on close inspection, proved to be only a hoop off one of the wheels. I instantly called to the driver of the first cart to stop, but the force of wind prevented his hearing me, so I had to make the best of it, and with the aid of my tools, at last managed, in the still driving rain, to get the hoop on again. Being just on the point of starting, I heard the rumble of something in front, which turned out to be driver No. 1, who, having got some distance ahead whilst my conveyance was undergoing repair, was eventually obliged to stop by the prostrate form of a huge tree laid across the road; hence his return. For the moment I did not like this second reverse, but keeping a cool head and having a slight knowledge of the road, I thought, by making a detour through a few fields, the obstruction might be averted. Being too dark to find the road myself, I called up the assistance of a neighbouring farmer, by whose friendly aid we were soon sent on our way rejoicing. Two miles further on driver No. 1 got lost by taking a wrong turn, and leaving my own cart in charge of the driver, I nearly beat the mile record before finding him. After this we arrived at our destination without further mishap, had removed all the hives on to their stands, and were busy opening the entrances, when I heard the biggest shout I think I ever heard, from No. 1 again, to bring a light! Hastily going to see what was the matter, I discovered his horse laid in a heap on the ground, which, to get into that position, had found it necessary to knock down the corner of a garden wall. This trouble was caused through the sheet he had placed over the horse's shoulders being blown over its head—a proceeding the animal naturally resented. Fortunately no injury was done, and thankful that such was the case, I completed the opening of the hives and then started for home. Seven miles on the return journey the hoop came off again, two miles still further on it left the wheel for the third time, and about a mile from home, just outside a village, it parted company for the fourth and last time by breaking in two. There was nothing left for it now but to take the cart to the village white-smith's shop, unyoke the horse, and leave the chariot to be repaired. To tear down a bill that had been newly posted on the wall, and write on the back a request that this might be done, was the work of a minute, in the hope that the smith might see it later—which he did. To describe my feelings whilst all this was happening is beyond me to do, but the knowledge that our brave "Tommies" were doing as much hard work in South Africa was a sustaining and comforting influence.—R. T. TENNANT, *Thirsk, July 29.*

THE SEASON IN HEREFORDSHIRE.

[4447.] *Honey Yield.*—Judging from my own and some of my neighbours' experiences this year, the harvest hereabout will be only a moderate average; but the quality will, I believe, be decidedly above the usual standard. I shall hold my own stock for good prices, and I advise others to do the same.

Marketing Produce.—Securing a local market is, in my opinion, the only remedy for the "cure" of the low prices revealed in the study of your advertisement columns. This, no doubt, requires some energy and business ability, but then these qualities are found in a measure in every person calculated to make a successful bee-man. The bane of our industry is the large number of happy-go-lucky keepers

of bees, who make little or nothing out of their own stock, and often cut down to vanishing point the profits of their neighbours. I am convinced that much more honey might be disposed of in country places and small market towns if producers would only take some little pains to find out likely customers, and great pains to secure that the honey sold was of best quality and in marketable form. Jars and other receptacles of "all sorts and conditions" may save initial expense by holding the honey; but then they also often prevent final profit by *holding* the honey still when it ought to go off for consumption.

Preventing Swarming.—From the condition of one or two of my stocks this year, I am beginning to suspect that, unless the prevention of the natural swarming impulse of the bees (with its consequent raising of new queens) be followed by regular requeening of non-swarmed hives by the bee-keeper, weak and profitless colonies will, at any rate sometimes, be the result.—W. H., *Brilley, Herefordshire, July* 25.

ON THE PREVENTION OF SWARMING.

[4448.] Having now thirty frame-hives, not one of which has swarmed this summer, and all of which are working well in their supers, I think it may be helpful to our brother apiarists if I describe my plan of campaign. Of my stocks, twenty-three are in long hives capable of holding eighteen standard frames, and seven are square, made to take eleven frames. Each model has its advantages. I will write in this note of the long ones only. Skeps almost always give some days', often weeks', notice before swarming. On the other hand, frame-hives very often do not unless you keep a constant eye upon them. We will suppose the hive enlarged to twelve or fifteen frames, on the front of which the super is in position and occupied by an industrious army. The back dummy has an opening at the bottom similar to that in the front of the hive, which is ordinarily blocked by a small piece of wood. When super work is going on this block is moved sideways so as to leave about half an inch opening. The space behind the dummy is covered with a cork-dust mattress, as is also the super. This I raise at least once a week to search for wax-moths, which have become a perfect nuisance in these parts. When the bees are thinking of swarming I find this vacant space more or less occupied by them, and often a bit of comb begun, before there is any indication on the alighting-board, and I take measures accordingly, usually by filling up the hive with frames and transferring the super as gently as possible to the rear, after which the front is easily kept under control on Mr. Simmins' principle.—C. C. JAMES, *Wortham Rectory, Diss, July* 27.

P.S.—South side beats east side hollow this year, judging by my own results.

BEE NOTES FROM WORCESTER.

[4449.] *Wild Bees.*—I have lately noticed a small bee about the size of a house fly working in the flowers like a honey bee, his legs heavily packed with pollen to be carried off, I suppose, for domestic purposes. Has he a wife and family, or is he merely an outporter or slave at work for others? I rarely see any like him, and I cannot trace him to his home or place of business. Can you tell me anything of his life's history? [If a specimen bee is sent we will endeavour to comply with your request. —EDS.]

Bee Forage.—Upon a hill-side near here, a piece of neglected arable land—a playground for all sorts of weeds—the common bind-weed has mastered all claimants and taken full possession of a sunny slope. Just now its pretty pink and white convolvulus flowers are in full beauty, and these afford abundant and profitable labour to bees from neighbouring hives.

I never saw them more greedily enjoying themselves, while the air resounds with their humming.

It is interesting to see them unconsciously rub off and carry away the pollen upon their backs as they bend down and push their heads beneath the antlers to reach the nectar at the base of the flowers. This pollen is distributed in all directions, and cross fertilisation made easy and certain.

There seems to be no outward indication by which the bees can tell that a flower has been already visited and robbed of its sweets, and it is amusing to see them turn indignantly aside when disappointed and rush off to try elsewhere.

The Honey Season.—Hereabouts we shall have an abundant honey harvest of first-rate quality. White clover was never more abundant, and our hives are densely populated with busy workers. There has been little waste of power, for swarms have been rare this season; and not only shall we have well-filled sections and shallow-frames to take away, but supplies in the brood-chamber should be abundant, with strong stocks of bees to meet the winter.

If we lose our stocks under such conditions, it must be, I think, through the difficulty of replacing elderly and worn-out queens. Will you advise us upon this point?—H. W. C., *Severn Stoke, July* 27.

BIRDS AND BEES.

THE RED BACKED SHRIKE.

[4450.] A few weeks ago at my apiary I noticed a red backed shrike fly several times on to the alighting-board of a "W.B.C." hive, and quickly snapping up a poor bee, fly off with it. I watched where the bird went to thinking I should find a nest, but instead I found that the little rascal took the poor bees and stuck them on thorns in the hedge. I found over ten bees stuck on branches in this way. Luckily I had my gun with me, and after waiting

quietly for the "bee-killer" I got a chance and shot him. I have since had him stuffed, and mean to exhibit him along with the bees on the thorns at our coming show at Shrewsbury. I am a reader of the B.B.J. and also of the *Record*, and have several old and modern books on bee culture, but after searching I cannot find any trace of the above bird being included in the enemies of the honey bees.

I should like to know if any other bee friends have ever noticed similar mischief to bees done by the red backed shrike (commonly known as the butcher bird (Lanius collurio).—W. H. BROWN, *Clevedon, Shrewsbury, July* 25.

BEE-FORAGE.

EPILOBIUM ANGUSTIFOLIUM.

[4451.] I take from Lindley's "Treasury of Botany" the following:—

'*Epilobium angustifolium* is not often found truly wild; is a common ornament of cottage gardens, where, if suffered to range at will, would soon overpower other herbaceous vegetation; can be planted with advantage in shrubberies where luxurious undergrowth is desired. In this plant the leaves are scattered and destitute of pubescence; flowers are irregular, large, rose red, and grow in a terminal spike. The *Epilobiums* are of the order *Onagraceæ*; grow in all situations—by rivers, in woods, and on waste ground; are mostly perennial. There are several British species, most of which are unpretending weeds; but *E. hirsutum*, a tall species 4 ft. to 6 ft. high, is frequently ornamental to the borders of rivers and ponds. Flowers are a pale pink, exhaling a peculiar acidulous scent which has gained for it the popular title of "codlins and cream."—T. I. W., *Witham, Essex, July* 19.

[4452.] In BEE JOURNAL of July 18, a correspondent writes on page 283, of a plant he saw in the Botanic Gardens, Oxford. Having lived there until nineteen years of age I naturally feel interested in his remarks, being an old Oxonian. The plant he mentions (*Epilobium angustifolium*) belongs to the order *Onagracea*, hardy perennial herbs, natives of Britain, California, Europe, Peru, Sierra Nevada; height 6 in. to 6 ft.; six varieties, flowers rose, red, white. Plant, October, November, or in March; suitable for shrubberies or naturalising. See advertisement in this week's JOURNAL.—S. T. BADCOCK, *Bexhill-on-Sea, July* 19.

[4453.] Being a weekly reader of the B.B.J., and seeing information required by a correspondent regarding *Epilobium angustifolium*, as a gardener by profession and also a bee lover, I beg to send you the following notes:—These plants are most at home by the waterside, but will thrive in moisture, sun, or shade. They are increased by division, and are best divided after flowering or in early spring. *Epilobium ang.*, crimson (narrow leaved); *Epilobium ang. album*, white, height, 2½ ft. to 6 ft. (popular name, French willow). Any further information that may be required I shall be glad to answer through your valuable journal.—A LOVER OF BEES, *Herts, July* 19.

VIRGIN SWARMS.

[4454] In "Queries and Replies" for July 18, in reply to G. C. (Ayr) (page 289), I note you say he "need have no fear of his bees swarming again, since they swarmed in June and have since then filled one rack of sections." Well, I had a swarm issue on June 16. I put on hive to receive the said swarm, queen excluder, and one rack of sections. A week later I gave a second rack, and, to my great surprise, a swarm issued from the hive on July 11. I therefore ask:—1. Was this an exceptional case? I think she is a splendid queen; the same hive did best for me last year. I may also add a line to say I put on six standard frames as a super in beginning of the season, and wishing to have a young queen from this stock I did not add to super. I have now been rewarded with two swarms and one cast. 2. Do you think the young queen's heading cast and the two old stocks will be as good as the old one?—A READER, *Conway, July* 23.

[Our correspondent has missed the "point" in comparing the two cases. "G. C." was dealing with the parent hive that swarmed in June and had since filled a rack of sections. On the other hand, "A Reader" apparently refers to a swarm of June 16, which latter would, of course, be headed by the old queen. This makes all the difference. For the rest we may say:—1. It is very seldom that a swarm hived in mid-June will swarm again. When it does the bees are usually termed a "virgin swarm." 2. It is impossible to say. —EDS.]

HOMES OF THE HONEY-BEE.

THE APIARIES OF OUR READERS.

Mr. Phil Jones, whose curiously-situated apiary makes up a pretty picture on next page, is a good bee-man, who has his own notions with regard to size of frames and types of hives, and with which we are the last to disagree. He makes his bees "pay," thus showing that for his own district he knows what is best, and we heartily agree with him. For the rest, the interesting notes, sent at our request, need no addition from us. He says:—

"In compliance with your request, I send a few notes to go with photo of my apiary. I have been acquainted with bees since quite a youngster, and have more than once assisted at the 'sulphuring business.' I commenced keeping bees myself fifteen years ago, my first

stock being in an old hollow stump sawn out of a tree. This stock I kept till August, 1888, thinking to get a swarm from them, but the bees did not swarm at all. I therefore began some 'driving' operations, and although it proved a tough job, I secured two skepsful of bees; but I do not think there was a pound of honey in all the combs, though so strong in bees. So much for my start. I began with my first frame-hives in 1887, and the following year was notable as a year of 'feeding,' not surplus taking.

"The photo only shows a portion of my apiary, which contains about fifty hives in all. As you will see, it is located on some very unlevel ground, being an old stone quarry, from whence the well-known Soudley building stone was taken in former times. It is a fair district for honey, being within reach of the Stretton Hills, and in some seasons we get quite a nice lot of surplus heather-honey, although the bees have to travel quite two miles to the heather. I have moved a dozen or so of hives to the heather, but the distance is about six miles by road, and a rough road into the bargain, so I have abandoned moor-going. The large hive seen with square top is my record one, having yielded 139 1-lb. sections from it in one season, with fifteen large frames for brood-nest. The hive on left of gate is a home-made ('Conqueror'). I have now had it in work for nine years, and the bees have never once swarmed.

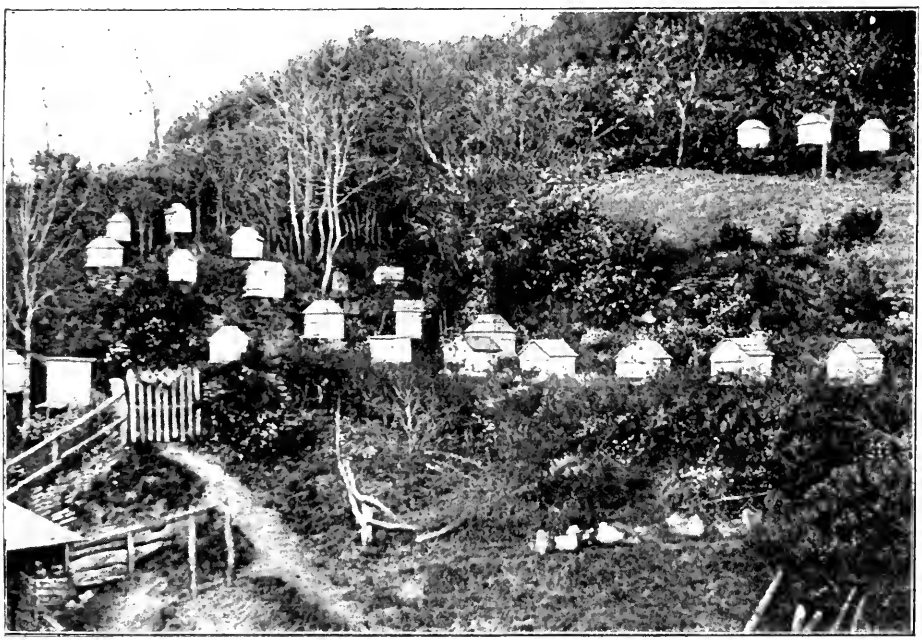
"I am sorry to say we are in this district not free from foul brood, and I have had a taste of it myself, but I do not fear it now. I keep it down chiefly by outside feeding in the spring, and keeping a close look-out in each stock handled.

"In feeding I use a trough-feeder of thin food, medicated 1-400 of absolute phenol. All honey boiled two hours before using. My bees have taken over 25 gallons of food so prepared this spring, not from necessity, but for stimulating purposes, and I have used nearly a pound of phenol. I have practised this plan for the past four years.

"Of course, I have to sell a lot of my honey wholesale, but have increased my local trade considerably. All sections are glazed and put up as attractively as I can make them, and all that are not well fitted are put through the extractor, as worked-out combs often mean good heather sections. All extracted honey not up to the standard I boil for bee-feeding or use for mead-making, and I regret to say I had rather more left on my hands than I care for last year, owing to honey-dew.

"I also find another way of selling honey to the working classes is to attend the local market provided with a tin fitted with tap, and draw the honey off to purchasers at a cheaper rate than 1s. for a 1-lb. jar, customers bringing their own receptacles.

"Wishing all bee-keepers may have a prosperous season in 1901."



MR. PHIL JONES' APIARY, CHELWICK VALLEY, CHURCH STRETTON, SALOP.

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

L'Apicoltore (Italy).—"If at the entrance or on the floor of any hive you remark black grains of cylindrical form, these are the excrements of the wax moth. If in the early morning there are to be seen—either on alighting board or on the ground before a hive—dead larva of the wax moth, or chrysalids of bees nearly mature, but with injured wings and legs, thrown out by the worker bees, this denotes the presence of the moth, and the hive should receive immediate attention. Sometimes the bees will entirely leave a hive where they cannot free themselves from these enemies."—(From external signs, &c. Theod. Marré.)

Bulletin de la Soc. d'Apiculture de la Somme. Apple Jelly with Honey.—To a pint of apple juice (after well boiling and straining) add rather more than ½ lb. of honey; boil it for an hour and skim from time to time. After it has boiled an hour try the jelly by throwing a small quantity into a saucer. If it does not set continue the boiling until the result is satisfactory. For gooseberry as well as for apple jelly (with which we always use honey) we have found an hour's continued boiling sufficient.

Le Rucher Belge (Belgium).—Many of the daily papers have reported that a horse had been killed by bees not far from Tinlot. The fact is true, but did not happen as alleged. Great injustice has been done to the bees; for they only acted in legitimate defence. The carter had no business to pass the place where the apiary stood. He should have taken the road he was directed to follow. Besides, what business had he to upset a hive of bees? Our readers can easily imagine what resulted. Were the bees to blame?

Rucher Belge (Belgium). *A Short History of Bee-keeping in Ancient Times.*—Allusions to apiculture abound in the Old Testament; bees are also mentioned by pagan authors, in the mythology, as well as in the Talmud and the Koran. The first bee-hives were trunks of trees or holes in the rocks, the Bible speaking of Canaan as "a land flowing with milk and *honey*." Later, 445 to 355 B.C., Xenophon, the Greek philosopher and historian, relates an adventure which happened to 10,000 Greeks while retreating across Asia Minor, after having succoured Cyrus the Younger. These soldiers, after eating much honey, were for awhile as those having taken too much wine. Plato, 429 to 347 B.C., tells us that "to cause a swarm of bees to settle, you must strike on brass vessels." This custom has long prevailed, and, in fact, still exists. Aristotle, 384 to 322 B.C., the Greek philosopher, was interested in apiculture, and speaks of the honey that made the Greek soldiers ill, and the locality which produced it. He knew that in the absence of queens the workers lay eggs which give birth to drones. Theocritus (300-220) also speaks of bees in his "Bucolics." Many eminent men have written on the work and habits of this wonderful insect, but, sad to say, most of them have spread abroad as much error as truth. Virgil, for instance (70 to 19 B.C.), in his fourth Georgic, has given several pages to the bees. Columella, a writer of the first century A.D., speaks, among other subjects, of apiculture in Greece. Pliny the Ancient (23-79 A.D.) gives advice to avoid stings, and explains that the honey to which the Greek soldiers owed their indisposition came probably from a shrub called rhododendron. He mentions that a Roman senator had made a hive of the most transparent horn. Plutarch (50 to 120 B.C.), in his "Conjugal Precepts," makes allusion to the habits of bees.

Shakespeare (1564-1616) describes in "Henry V." the habits of the bees. Only he regarded the mother and queen as a "king," which was the general idea of the period. With Swammerdam, the Dutch scientist (1680), began the scientific and experimental era. He dissected and produced drawings of beautiful exactitude, but did not always arrive at the truth. He thought the bee's tongue was used as a pump and thought the insect took in the honey, passing it through its extremity. Miraldi, an Italian doctor and apiculturist—1700—remarked that the honey was deposited by the mouth near the mandibles. This author, who was the first to construct a glass hive, made many observations, amongst others the measure of the angles of cells. About the same time, 1683 to 1757, Réaumur, a celebrated French physician and naturalist, made valuable observations on the habits and labours of the bee. He gained the conviction that the queen only can give birth to the three classes of individuals in the hive. Still, he also made serious mistakes, but left the whole subject more or less an open question.

Honey as a Remedy for Inflamed Throat.—The editor of the Austro-Hungarian bee-paper has himself experienced the value of honey in the case of severe feverish sore throat. In his distress he tried the effect of honey, taking a small spoonful every quarter of an hour. After a short time the throat and mouth became moist and in a few hours the inflammation had entirely disappeared.

Queries and Replies.

[2697.] *Queen Introduction.*—Herewith I am sending a dead queen, and should be grateful for your valued opinion and advice as to the circumstances. On Friday, July 5, on my return home about five o'clock, I concluded that one of my hives had swarmed, and the swarm had decamped. The super, which in the morning seemed nearly solid with bees was now practically deserted, and on looking about

for any signs I noticed a few bees continually buzzing around a branch of a pear tree near, in the way, as I have noticed, they usually do round the spot where a swarm has first settled. I felt particularly vexed about this because the hive had on it a rack of the new "tall sections," about which we had so much discussion in the JOURNAL a few weeks ago, with which I was experimenting. I had first supered the hive with a box of shallow-frames, and when these were well under weigh had put the rack of tall sections below. This is how matters were on July 5, the shallow-frames being then nearly finished. As I had already got a nucleus hive with a young queen in it, I thought it would be wise to put her into the hive in question, and give the nucleus a queen cell from this hive to rear a successor from. I therefore on Saturday morning examined all the combs in the hive, and found only one frame on which was a queen-cell (sealed over). I removed this frame from the hive, and I next found the frame in the nucleus hive on which the young queen was, and inserted this in the place of the frame removed, first sprinkling the bees on this frame and those in the hive thoroughly with flour. The frame with the queen cell I then placed in the nucleus hive, also sprinkling all the bees with flour. I put on the queen-excluder again, and returned the box of shallow-frames. The rack of sections I took away for the present. I watched very closely during the whole of the ensuing day. There was no fighting at either hive, and I hoped that everything was going well. On Sunday morning, however, I found the enclosed queen outside the hive dead. I should like to know:—1. Was my diagnosis correct as to the hive having swarmed? 2. If so, did I do what was best in giving them the young queen? 3. If the idea was right, did I go the right way to work to carry it out? 4. Has the queen sent been fertilised? She was hatched nine or ten days prior to being put into the hive. 5. If she had not been fertilised, would that account for her being thrown out by the bees? I am assuming that the dead queen is the one I put in, and that no young queen had hatched when the bees swarmed. I saw no cell from which a queen had recently emerged. Besides the one cell removed there were a few which I judged were either old or abortive queen-cells. The queen I am sending looks small, much more so than when I put her in; but perhaps some shrinkage has taken place since her death. Most of the frames in the hive were solid slabs of brood, and mostly sealed; there is even some brood on the very last frame, which, however, contains chiefly honey. I concluded, however, that by Sunday there could hardly be any eggs in the hive young enough to be reared into queens. 6. Was this a legitimate conclusion? So in the afternoon I cycled over to an expert's apiary and obtained from him a fine young laying queen, and introduced her in a cage the same evening. On Monday evening—*i.e.*, after twenty-four hours—I raised the cage and withdrew the celluloid slide at the bottom, and put the cage back again. Tuesday (to-day) morning, 9.30, I went to remove the cage, but found the queen had not gone out, although the way is quite free. Other bees were in the cage with her, whether her original attendants or not I cannot say, and the bees were clustering upon the cage fairly thickly. This is my first experience at introducing a queen, so I don't know whether anything is going wrong that she has not yet left the cage. I should therefore be grateful if you would advise me.—N., *Wallington.*

REPLY.—If the facts are accurately stated in the details given above, we may briefly say 1. Yes. 2. The hive having swarmed there would be queen cells left behind, some nearly hatching out, and, this being so, the bees would be disinclined to accept an alien virgin-queen. 3. Yes, but queen should have been caged. 4. The dead queen looks as if mated, but we cannot be sure, as a *post mortem* is now impossible, the dead insect being too hard for examination. You should have examined combs in nucleus hive to prove this by the presence of eggs or brood. 5. Not necessarily under conditions stated; but she has evidently been "balled" to death by the bees. 6. No; because bees do not rear queens direct from the egg but from larvæ a few days old—or, say, from five to six days after the egg is laid. In view, therefore, of all the facts, it was not the best course to follow for the following reasons:—(*a*) It was wrong to remove the queen from nucleus without first making sure whether she had been mated or not; (*b*) In giving an alien queen to bees that had just lost their own "mother-bee" by swarming, the stranger should have been caged. Referring to the queen got from the expert and introduced in the cage as sent, she will no doubt have been received all right, and be laying well by the time this reply is read.

[2698.] *Removing Bees from Crumbling-down Skep.*—Could you inform me how to proceed in transferring bees from an old crumbling-down straw skep to a new and larger one of the same kind? I may state that the old skep referred to above has already got a small good one on top of it, which was placed on in the spring of this year, and the contents of which may be helping to crush it down worse now.—H. CRAWFORD, *Glendarnel, Argyllshire, July* 23.

REPLY.—It is hardly advisable to remove bees from their established and furnished house—old though it be—and put them into an empty skep at this late season of the year. We should, at least, leave them the small combed skep now forming the super, and substitute a new skep below for the decayed old one now in use. This will not be a very difficult job as follows:—Remove the small upper skep, bees and all, and fix it on the larger new one. Set the latter on a newspaper

with its front raised up a little. Then drive the bees from the old decayed one and throw them out in front of the new skep and allow them to run in. It is not at all certain that the bees will furnish the new skep with combs, unless fed very liberally; and in view of this it would be far better to substitute a frame-hive fitted with full sheets of foundation if you wish to make a success of your transferring.

[2699.] *Making Artificial Swarms in Autumn.*—Will you kindly inform me if it is too late in the season to make two strong colonies into three, according to instructions in "Guide Book" (page 94), with or without queen cells?—R. L. SHARP., *Formby, Liverpool, July* 29.

REPLY.—It will be safe to operate in the way referred to if a laying queen can be given to the new hive. It is rather too late to rely on queens being reared and safely mated in August.

Bee Shows to Come.

August 5 (Bank Holiday) at Lichfield.—Honey Show in connection with that of Lichfield Floral and Horticultural Society.

August 5, at Butterfield Park, Hessle, Hull.—Honey Show in connection with the Hessle and District Floral and Agricultural Society.

August 5, at Melton Constable.—North Norfolk B.K.A. Annual Honey Show. **Three open classes.**

August 6, at Leamington.—Honey section of Leamington St. Mary's flower show. Three **open classes** for six 1-lb. sections, six 1-lb. jars "light," and six 1-lb. jars "dark" extracted honey, respectively. Good prizes. Schedules from the Secretary, 2, St. Mary's-road, Leamington. **Entries close August 3.**

August 7, at Neston Park, Wilts.—Honey Show in connection with the Atworth and District Horticultural Society's Show.

At Llanberis.—Honey Show in conjunction with Llanberis Horticultural Show. Open class for single 1-lb. jar Extracted Honey.

August 7, at Marlow. Show of Honey, Hives, and Bee Appliances in connection with the Marlow Horticultural Society. Valuable Prizes. Schedules from the Hon. Sec., A. D. Cripps, Marlow, Bucks. **Entries close August 3.**

August 7, at Macclesfield.—Adlington and District Agricultural Society's Show. Four open classes for hives, six sections, six 1-lb. jars, and wax.

August 8, at Kingsthorpe, Northampton.—Honey Show of the Northants B.K.A., in connection with the Horticultural Exhibition. Twelve classes for bee-keepers.

August 8, at Madresfield Park.—Annual Show of the Worcestershire B.K.A., in connection with the Madresfield Agricultural Exhibition.

August 8, at Foys Chetnole.—Yetminster and District B.K.A. Annual Show of Bees, Honey, and Beeswax. Thirteen classes (including three open classes). Entry free for single 1-lb. section, 1-lb. jar extracted honey. Schedules from G. Leeding, Bradford Abbas, Sherborne, Dorset. **Entries close August 3.**

August 15, at Goole.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 10.**

August 15, at Abergwili, Carmarthenshire.—Abergwili Horticultural and Agricultural Society's Show. Open class for single 1-lb. jar extracted honey (entry free). Prizes, 10s., 7s. 6d., 5s., and 2s. Particulars from Thos. Rice, Secretary, Abergwili.

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes.

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 21 and 22, at Newcastle-under-Lyme.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

August 24, at Barnton, Northwich.—Honey show in connection with the flower show. Honey department—seven local classes and one class (open to all Cheshire) for twelve 1 lb. jars "light" honey. The Cheshire B.K.A. bronze medal goes to winner of first prize in this class. Schedules from the Hon. Sec., Mr. S. Wade, Barnton, Northwich. **Entries close August 17.**

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt.)

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street, Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

HY. PIBURNE (Stourport). — *Removing Bees from Frames.*—1. Prepare a good-sized board and set the skep thereon with its front raised up an inch or so : lift out the frames singly, jerk the bees off the combs with a downward shake, and allow them to run in to the skep. 2. *Uniting Driven Bees.*—You may unite the queenless bees in second skep to the others by driving the bees in the usual way and mixing both lots up in one skep by shaking them up together as you would so many peas, sprinkling a little flour over them in the "mixing" process; then throw them out in front of the hive intended for the united bees and let all run in together.

A. THORPE (Wistarton).—*Queen Rearing.*—We are glad you found matters all right on examining the combs again.

"CHI BETA" (Ashley).—*Sugar for Bee-Food.*—Either of the two samples will be suitable for bee-food if your grocer will guarantee them as being "pure cane sugar" otherwise we cannot recommend their use for the purpose.

JOHN J. ALSFORD (Blundford).—*Defunct Bee Associations.*—Much obliged for copy of report (eighteen years old which shall be duly returned when done with), and also for your promised help if called upon.

R. HUNTON (Yorks).—*Honey for Showing.*—Your sample is very nice clover honey, and quite fit for the show-bench.

JAS. POOLE (Stokenchurch). — *Errors in Diagnosing Foul Brood.*—It would save much time and worry to beginners in bee-keeping if they would start by procuring a reliable guide book. Without this, constant mistakes are liable to occur. Your case illustrates the point forcibly, seeing that there is no trace of disease in either of the samples received, nothing worse than pollen. But the pieces of comb sent are in curious condition. In No. 2 sample there are no cells built out on one side, though the bare midrib looks old, and as if the cells had been pared down to remove hard old pollen. No. 2 hive has evidently been rendered queenless, from the three queen-cells sent, from one of which a queen has apparently hatched out. There may, therefore, be a mated queen now in the hive, but only an examination of the combs for eggs or brood will prove this.

H. F. J. (Henbury).—*Naming Races of Bees.*—The drones sent are hybrids--Carniolan crossed with the ordinary or native bee—and very fine drones they are.

Honey Samples.

J. B. (Cardiff).—All four samples are good but of varying character. No. 1 is best in colour and of good flavour. No. 2 being so full of air bubbles would have to be cleared before showing. Of the more golden coloured samples No. 4 is best. No. 3 being thin in consistency. If made bright and clear before staging any of them is fit for showing.

W. H. (Hereford).—The three samples are excellent in quality. Quite fit for any show-bench. No. 1 is most to our taste; No. 2 second.

DAVIES (Carmarthen).—The sample is almost wholly from white clover and is good on all points. If the sample not sent is lighter in colour than that forwarded we should choose the lighter one for showing, as most judges prefer a light coloured sample of white clover honey.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

J. W., Jun. (*Muthill, N.B.*).—The comb is affected with foul brood. You did well to destroy the stock "on chance" under the circumstances. We shall be very pleased to get photo of your bee-garden for publication, and thank you for good words concerning the B.B.J.

Samples from C. F. (*Darlington*), W. G. (*Co. Durham*), W. J. B. (*Norfolk*), and M. F. Smith (*Oxford*), are all affected with foul brood.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HONEY WANTED.—New Sections and Run Honey. Particulars and price to G. W. ASHDOWN, Brighton.

DRIVEN lots of BEES with Queens, 3s. Boxes returned. PULLEN, Ramsbury, Hungerford. H 8

FOR SALE, first-class SECTIONS, well finished, 7s. 6d. per doz. Carriage paid on 6 doz. ERNEST E. DAVIS, Great Bookham, Surrey. H 10

WANTED, DRIVEN BEES, 1s. lb., Comb and Run Honey, 30s. cwt. DAWKINS, Sutton Coldfield. H 12

WANTED, BEES, for high-class Dragon Pigeons. Approval. FAIRALL, Newbridge-street, Wolverhampton. H 11

FOR SALE, GOOD CLOVER SECTIONS, 8s. per doz. Also Extracted. F. GARNETT, Well, Bedale, Yorks. H 15

FOR SALE, 5 doe Belgian Hares, 9 months old, pure bred, 5s. and 7s. 6d. each. Cash with order. DEWDNEY, Abinger Common, Dorking. H 5

WANTED, DURING AUGUST, 12 or less lots Driven Bees. Quote price on rail. ERNEST OETZMANN, Lyndhurst, Slough, S.W.R. H 13

200 CLEAN 16-oz. SECTIONS, carefully packed. What offers to clear? DAVIDSON, Bee-keeper, Basingstoke. H 18

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

OVERSTOCKED. — Six strong healthy STOCKS of BEES FOR SALE in frame hives. BIRCH, 2, Station-terrace, Hosforth, Leeds. H 3

HONEY.--Pure New Extracted, mostly clover, 6d. per lb.; carriage paid on 56-lb. tins; samples 3d. Sections. MASON, Orielton Schools, Pembroke. H 6

Prepaid Advertisements (*Continued*).

WANTED to rent (possibly purchase) Country COTTAGE within hour of London; 2 reception, 3 or 4 bedrooms; rent £20 to £28. "X.," *B. J.* Office. H 20

HEALTHY Driven BEES, 3s. a lot; 5, 6, and 7-lb. lots, 1s. lb.; safe arrival. Cash order now for August delivery. Hybrid Cyprian Queens (Nov.), 3s. 6d. SPEARMAN, Colesbourne, Cheltenham. H 16

SHALLOW-FRAMES (Lee's wide), drawn-out Combs (wired), drone base, clean, no disease, 4s. per doz.; cash or deposit. STEVENS, Latimer Apiary, Chesham, Bucks. H 9

FINE, PROLIFIC Tested, 1901 Fertile QUEENS, of my well-known strain, 3s. 6d. each, post free; guaranteed healthy and safe arrival. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. H 17

WANTED, by young man, a SITUATION. To look after bees. Can make the appliances. Would fill up spare time in fruit garden. Total abstainer. "J. S.," Office of this Journal. H 19

FOR SALE or EXCHANGE (Bicycle preferred), one 3-framed mahogany Observatory Hive, with section rack; revolves on turn-table, mahogany; also a 2-framed one, made as above; highly polished mahogany. SEAMARK, Willingham, Cambs. H 14

OVERSTOCKED.—Eight new shallow CRATES, 17¾ by 15½., with full sheets foundation, 4s. each.; 30s. the lot. Also three new strong HIVES, painted, 19½ by 18½, 7s. each; £1. the three. Appro. VICAR, Sancton, Yorks. H 4

HONEY LABELS, new design. Send stamp for sample. GUEST, Kings Norton, Birmingham. G 97

HEALTHY SWARMS during August, 6s.; packing free. ALFRED GOULD, Henley-in-Arden, Birmingham. G 96

EPILOBIUM ANGUSTIFOLIUM, hardy perennial, plant in October, 12s. dozen. BADCOCK, Florist, Bexhill. H 1

HONEY JARS 1-lb. screw-cap, 17s.; tie-over, 12s. 6d. per gross, on rail. JAS. DYSON, Stainforth, Doncaster. G 98

OVERSTOCKED.—SUPER FOUNDATION, 2s. 3d.; WEED BROOD FOUNDATION, 2s. lb. W. LONG, North-road, Mere, Wilts. G 94

THREE-FRAME NUCLEI, with fertile Queens from imported Cyprian, 8s. 6d. WOOSNAM, Newton-Abbot. G 80

STRONG, healthy driven BEES, with Queen, end of July, 5s. per lot. Boxes returned. MORETON, Expert, Leigh, Worcester. G 81

25TH YEAR.—Small SWARMS with Reliable Queens, 5s. 6d. Package free. Queens. ALSFORD, Expert, Blandford.

PURE EXTRACTED light coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

SPLENDID 1901 HONEY, in 28-lb. tins, 6½d. lb. Tins free. Sample, 2d. Cash or deposit. DUTTON, Terling, Essex. G 64

WANTED, EXPERT for Summer Tour in Hampshire. Apply, quoting terms, to E. H. BELLAIRS, Hants B.K.A., Christchurch.

WANTED, a CUSTOMER to take my new Honey Sections and Extracted. Cash or deposit. J. TREBBLE, The Apiaries, Romansleigh, South Molton. G 95

FEW good heavy HEALTHY STOCKS BEES in Skeps with 1901 Home-bred Cyprian, Italian, and Carniolan fertile Queens, 10s. each. SPEARMAN, Colesbourne, Cheltenham. G 99

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BREREETON, Pulborough, Sussex.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

Prepaid Advertisements (*Continued*).

BEES FOR SALE.—Six very strong STOCKS, with young queens, excluder, and one super, 25s. each; five large Skeps, strong in bees, with young queens, 12s. 6d. each; 3-comb Nuclei, with young queen, in returnable hive, 12s. 6d. WM. LOVEDAY, Hatfield Heath, Harlow, Essex.

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 6s.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d.; swarms from 10s. 6d. Stocks and Nuclei headed by any variety queen at fair prices. Customer writes:—"The Italian nucleus I had from you got on quickly. . . . supered June 16th." Particulars E. WOODHAM, Clavering, Newport, Essex.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d, 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3⅛ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s. 6d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

HEALTHY June & July **SWARMS**, 3 lb. to 6 lb. at 2s. 6d. per lb. 10 lb. Swarms, 22s.
(100 READY.

SENT ON APPROVAL.
Safe arrival guaranteed.

Stocks, Nuclei, Imported Foreign Queens (Fertile and Virgin), English Queens, &c., supplied at reasonable prices.

Catalogue of Bee and Poultry Keeping Appliances post free.

SPEARMAN, Colesbourne, Cheltenham.
The Largest and Cheapest Depôt in the South of England.

WHY NOT BUY YOUR SKEPS DIRECT FROM THE MAKER?

You may buy first-class skeps bound with stout new cane, at **1s. 3d., 1s. 6d., 1s. 9d.,** and **2s.** each. Cash with order; 5% discount. Wholesale prices on application. S. J. COX, Bee-skep Maker, 12, Arwenack-street, Falmouth, Cornwall.

NOTE OUR SPECIAL LINES!

"W.B.C." Hives, from 17/- to 25/- each.
"W.B.C." Non-Swarming Hives, 24/- each.
Improved Cottager's Hive, with Zinc Roof, 12/6 each.
"Interchangeable" Hives, 13/6 and 14/6 each.
These Hives can be worked with Frames Parallel or at Right Angles to the entrance, as desired.
Best Snow-white Sections, 2/- per 100; Split Top, 6d. extra.
Best Quality Standard or Shallow Frames, 1/2 per doz.
"W.B.C." Ends, ⅞", 30, post free, 1/-; 3/6 per gross, post free.
Zinc Queen-Excluders, 17" by 15", 6d. each; post free, 9d.
Celluloid ,, ,, ,, 1/4 each, post free.
Best 1-lb. Nickel Screw-cap Bottles and Cork Wads, 20/- gross.
Improved "Derby" Extractor, 13/6 each; or with Gearing, 20/- each.
The 20th Century Extractor, 22/- each
,, ,, ,, with genuine Bicycle Chain Gearing, 32/- each.

R. H. COLTMAN, Bee Appliance Maker,
49, Station-street, BURTON-ON-TRENT.

Editorial, Notices, &c.

YORKS AGRICULTURAL SOCIETY.

ANNUAL SHOW AT BRADFORD.

The above show was held at Bradford on the 31st ult., and two following days. The section set apart for bee-appliances, honey and wax is always a centre of much interest to bee-keepers. The present season would no doubt be supposed by outsiders to have been one of exceptional yield, but it has apparently been otherwise. There has been ample sunshine, but the drought has had a prejudicial effect upon the blooming of flowers, and the exhibits are in consequence, not very numerous, but they are excellent in quality. The show of hives, and appliances is larger and better than in some previous years, and is a pleasing evidence of the growing popularity of an industry at once interesting, profitable, and useful.

Lectures given in the bee-tent by Mr. Fred A. Pay, of the Yorkshire B.K.A, illustrated very clearly the great advantages of modern methods over the old style of keeping bees.

Mr. J. P. W. Lightfoot was judge of the honey section and made the following awards :—

Collection of Hives and Appliances.—1st, R. H. Coltman, Burton-on-Trent ; 2nd, E. H. Taylor, Welwyn ; 3rd, W. Dixon, Leeds.

Complete Frame Hive.—1st, H. Taylor ; 2nd, R. H. Coltman ; h.c. E. H. Taylor.

Observatory Hive with Queen and Bees.—1st, E. H. Taylor ; 2nd, W. Dixon.

Display of Honey, Wax, &c.—1st, W. Dixon ; 2nd, R. H. Coltman ; h.c., Rev. Sidney Smith, Whedrake Rectory, Yorks.

Twelve 1-lb. Sections.—1st, Rev. J. R. Bradshaw, Hessay, Yorks. ; 2nd, Rev. R. M. Lamb, Burton Pidsea ; 3rd, W. Patchett, Caistor, Lincs. ; h.c., R. J. Dean, Hempholme.

Twelve 1-lb. Sections Heather Honey.—1st, Henry Waddington, Boroughbridge ; 2nd, W. Dixon ; 3rd, Rev. Sidney Smith.

Twelve 1-lb. Jars Extracted Honey.—1st, W. E. Richardson, Driffield ; 2nd, Rev. J. R. Bradshaw ; 3rd, Rev. R. M. Lamb ; h.c., Herbert Pears, Mere, Lincs.

Beeswax (not less than 3-lb.)—1st, Mrs. E. Berry, Llanrwst ; 2nd, John Berry, Llanrwst ; 3rd, Rev. Sidney Smith.—*Communicated.*

HENBURY AND DISTRICT B.K.A.

The eighth annual show of the Henbury Horticultural Society took place at Henbury on July 31. The weather being very favourable, the exhibition was one of the most successful yet held. The honey exhibits were under the auspices of the Henbury District Bee-keepers' Association, and were a "record" both in regard to supply and quality. There were seven open classes, and competitors in these included some in Oxfordshire, Cambridgeshire, Worcestershire, and Berkshire. A special prize was given by Mrs. Waller for cottagers only, in order to encourage them to take up bee culture. The judges were Mr. James Brown and Mr. S. Jordan, of Bristol, the following being their awards :—

Honey Trophy.—(Open) 1st, G. W. Kirby Willsbridge ; 2nd, J. Fenner, Henbury ; 3rd, W. G. Barnfield, Charlton.

Twelve 1-lb. Sections.—1st, G. W. Kirby ; 2nd, W. Woodley, Newbury ; 3rd, W. M. Turner, Witney, Oxon.

Twelve 1-lb. Jars Extracted Honey.—1st, W. M. Turner ; 2nd, W. Woodley ; 3rd, G. W. Kirby.

Single 1-lb. Section.—1st, J. G. Weaven, Hallen ; 2nd, H. Seamark, Willingham ; 3rd, J. Seldon, Umberleigh, N. Devon.

Single 1-lb. Jar Extracted Honey.—1st, H. M. Turner ; 2nd, H. Seamark ; 3rd, Mrs. G. Matthews.

Three 1-lb. Single Jars Extracted Honey.—1st, Mrs. Waller ; Mrs. T. Hignell, Henbury ; 3rd, J. Fenner.

Beeswax.—1st, J. Fenner ; 2nd, G. W. Kirby ; 3rd, H. M. Turner.

Queen Wasps.—1st, H. Noble ; H. Leveson ; 3rd, J. Davies.

Twelve 1-lb. Sections.—1st. Ed. Meare, Brentry ; 2nd, J. Fenner ; 3rd, Mrs. A. Todd, Westbury-on-Trym.

Twelve 1-lb. Jars Extracted Honey.—1st, J. Fenner ; 2nd, W. G. Barnfield ; 3rd, Mrs. Hignell.

Six 1-lb. Sections.—1st, J. Fenner ; 2nd, W. G. Barnfield ; 3rd, Edward Meare.

Six 1-lb. Jars Extracted Honey.—1st, J. Fenner ; 2nd, M. A. Butler, Henbury ; 3, Mrs. Waller and W. Thomas (equal).

Three Shallow Frames of Comb.—1st, W. G. Barnfield ; 2nd, Mrs. T. Hignell ; 3rd, Mrs. A. Todd.

Three 1-lb. Sections.—1st, Mrs. A. Todd ; 2nd, J. Fenner ; 3rd, W. G. Barnfield.

(Cottagers) Three 1-lb. Jars Extracted Honey.—1st, W. H. Walker ; 2nd, C. Thompson.

Novices Classes.—Three 1-lb. Jars Extracted Honey.—1st, Mrs. Waller ; 2nd, W. Thomas ; 3rd, C. Bilbin, Stoke Bishop.

Three 1-lb. Sections.—1st, G. Witchell, Hallen ; 2nd, W. Orchard, Stoke Bishop ; 3rd, Mrs. G. Matthews.

Special Prizes.—Highest number of points (members of Henbury District Association).—1st (silver medal), J. Fenner ; 2nd (bronze medal), W. G. Barnfield.—(*Communicated*)

NORTH NORFOLK B.K.A.

The annual show of the North Norfolk Bee-keepers' Association was held in Melton Constable Park, by kind permission of Lord Hastings, on August 5. The honey staged was superior both in quantity and quality to that of recent years, the classes for extracted honey being especially well filled. Comb-honey, though of good quality, lacked

"finish," the bulk of the sections being such as are met with on the shop-counter rather than on the show-bench.

Two lectures and demonstrations were given in the bee-tent, which was also used for holding an examination for the third-class experts' certificate of the B.B.K.A. The whole of the arrangements in the hands of Mr. C. J. Cooke, the Secretary, worked well and gave satisfaction to all.

Mr. T. I. Weston judged the honey classes, and made the following awards :—

Twelve 1-*lb. Sections* (members only).—1st, W. Towler, Edgefield ; 2nd, E. Ramm, New Houghton ; 3rd, C. Clarke, Briston ; h.c., H. W. Woolsey, Edgefield, and F. G. Palmer, Hevingham.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. W. Lingwood, Hindringham : 2nd, W. Towler ; 3rd, W. F. Fake, Great Massingham ; v.h.c., H. Bond, Holt ; h.c., J. Platten, Briston, and G. W. Woolsey, Edgefield.

Six 1-*lb. Sections.*—1st, W. Towler ; 2nd, R. Dagless, Edgefield ; 3rd, J. W. Worship, Hindolvestone ; h c., E. Mann, Hempstead, and W. F. Fake.

Six 1-*lb. Jars Extracted Honey.*—1st, G. W. Woolsey ; 2nd, S. J. Mayer, Hemblington ; 3rd, W. F. Fake ; h.c., J. Nicholls, Shipham.

Beeswax.—1st, J. Nicholls ; 2nd, H. W. Woolsey ; h.c, W. J. Norman, Harpley.

Twelve 1-*lb. Sections* (open).—1st, C. Clarke ; 2nd, B. O. Goddard, Reepham ; 3rd, W. J. Norman ; h.c., W. F. Fake.

Twelve 1-*lb. Jars Extracted Honey* (open).—1st, H. W. Woolsey ; 2nd, S. J. Mayer ; 3rd, W. J. Norman.

Single 1-*lb. Jar Extracted Honey* (open).—1st, G. W. Woolsey ; 2nd, W Towler ; 3rd W. F. Fake ; 4th, H. W. Woolsey.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4455.] The month of August in which comes the corn harvest, the "holidays," and shows, agri—horti—flori—and api—cultural, or all combined, are being held in counties, towns, and villages. A perusal of the schedules affords evidence of the advance made and still being made in apiculture in Great Britain. Those of us who took part in local exhibitions of the seventies and early eighties know that the produce of the bee-hive was unrepresented on the show bench, except in a few instances when the straw cap of honey or a comb from a straw-hive on a dish, or at best a small bell-glass. Now nearly every "show," large or small, has its display of honey, and oftimes the bee-tent diffusing bee-knowledge and gathering in new members for the county associations. The strength of the County B.K.A.'s, however, nearly always lies in the one incentive, viz., the County Council grants for helping on the propagation of apicultural knowledge by bee-van or experts' visits, winter evening lectures, &c. All these forms of propaganda show the healthy growth of our craft, and ought to help in some degree to stem the tide of the countryman's flight to the big towns. The future of our villages will depend on the younger men who marry and settle therein. In the Union of which I have the honour of representing one parish as guardian, we have approximately lost (since the last census of '91) the population of two out of sixteen parishes in the hill district —and this in one decade ! Anything that interests the labourer in his home, whether it be his garden, his poultry run, his pigs or rabbitry, or his apiary, no obstacle should stand in the way of procuring these things, and every encouragement should be given to any minor industry that will enable him to add to his income during his spare hours.

Foul Brood.—This is ever on the cards. "Alpha" (4430, page 282) gives his experience in curing it, and Mr. Balderson, on the same page, wants legislative powers to stamp it out. If "Alpha," by the introduction of fresh blood—*via* young queens, or the shake-off method—has cured foul broody stocks, and they are found free from the disease the following summer, surely this points the way out of the mire for those who are unfortunately in the slough ? Mr. Balderson, in his concluding par., touches another point which has been discussed before in these columns, viz., fitting all spare hives with foundation ready for swarming time. I do not, however, believe that the author of the "Guide Book" ever intended to instruct bee-keepers to place these said prepared hives in their apiaries as "decoys" for swarms from our neighbours' hives, or shall I say incentives to the neighbours' swarms to go straight to a partly furnished hive, to the loss and chagrin of the other bee-keeper.

Swarms Lost in Transit.—The question is, Who should bear the loss—the consignor, consignee, or the railway company over which the consignments travel (*vide* Query 2693, page 297) ? The swarm in question was evidently smothered in transit ; the bees would, as our Editor says, appear as "drowned bees." This subject is one which I hope to see discussed by dealers in bees and the purchasers of swarms. It is fruitless to expect any light on the subject from the railway company, but when a number of swarms are sent off in one

day, and, say, five travel safely, while the sixth is smothered in transit, how can the "packer" be solely responsible? If all are delivered to the company in good condition, and at end of the journey five are alive and one dead, eulogistic letters follow on the careful packing from the owners of the safe lots, while the receiver of the sixth grumbles—and who would not? Now, brother dealers, let us hear what you think.

Size of Brood-Nest.—If our friends who write of their big "takes" of honey would give particulars of the age of queen, size of brood-nest, and style of hive it would enhance the value of their contributions for novices who are ever wading through the experimental stage of bee-keeping, whereas these items may prove veritable stepping-stones to success.

It is very satisfactory to hear that the season has been so much better than we anticipated; this I gather from letters received from leading bee-keepers in all parts of the country. I say leading because the bee-keeper who takes the trouble to glaze his sections is a progressive member of the craft, one who hopes by improving the appearance of his honey to secure a better price and a constant demand for his produce.—W. WOODLEY, *Beedon, Newbury.*

EGG-LAYING BY THE QUEEN BEE.

[4456.] I evidently did not make myself quite clear on this subject. What I wished to explain was that I thought it a physical impossibility for the queen bee to use her sting to guide the egg. I think it is reasonable to suppose that a natural act of this sort is performed in the same way by queens under any and all circumstances. There may be some slight difference as between a young and vigorous queen and an old and failing one. I cannot suppose that I am alone in my experience of having actually seen the act performed, but that anyone who saw what I did could believe that queens use their stings to assist in the operation, I doubt. The queen's sting we all know curves downwards, but in the act of parting with the egg she protrudes her abdomen to a position about level with the outer edge of the last segment of her "shell" or skin, and thus automatically forces the sting upwards against the top edge of the section, with the tube opening from the intestines above it, the base of the sting coming outwards as the abdomen protrudes, until, when the egg actually appears, the sting itself is nearly base foremost. I ought to mention that this queen was laying apparently methodically and collectedly, and laid the eggs in rows about as they would stand in the cells, that is to say, she laid at one time four eggs in a line, then three in a line just below in the alternate spaces. Sometimes the egg failed to clear the cavity, and at the next effort two eggs were laid together. I did not count the actual number of eggs she laid while we were watching her, but at a guess I should think about thirty. I made several drawings of the operation at the time, and in a photograph which I took, you can plainly see the row of eggs standing on end on the finger.

The photo referred to shows, I think, plainly what I mean, and the position of the sting. The sting certainly did work backwards and forwards during the spasmodic action of the abdomen which always preceded the delivery of the egg, the base of the sting moving through a greater segment of a circle than the point. It was only at last moment that the abdomen was extended to the position shown on the sketch, the spasmodic action taking place further back, leaving a hollow large enough for an egg to lie in when, as I remarked above, there was an unsuccessful attempt.

The point about the low-flying swarm was that all the swarms that I had ever seen before had always flown up in the air, even in the flattest country, and I was impressed by the fact that my friend deduced that, as it did fly low, it had already located itself. It is generally admitted, I think, that swarms usually "bunch up" first, and then send out a "search party" to look for a convenient domicile.

The negative of the queen laying eggs is rather a faint one, but if you would like to try and reproduce it I will send it along. The queen was transferred (on a finger-stall) from my hand to my gardener's for the purpose of having its portrait taken.—GEORGE CAMPBELL, *Woodside, Ainsdale.*

FOUL BROOD.

CAN THE DISEASE EXIST AMONG WASPS?

[4457.] On August 3, while destroying a wasps' nest, I found in some of the combs unmistakable symptoms of a disease possessing all the characteristics of foul brood. There was a considerable quantity of sealed brood, and in many places the snow-white capping had been stained a dark brown colour, and the viscid contents of the cells possessed the smell and other indications of foul brood. Many of the unsealed larvæ were dead; some had dropped out upon the comb beneath, and, on the whole, they were drier than would have been the case with bees. This may, however, have been due to the porosity of the cell-walls which were stained dark brown. Foul brood has been known to exist for about three years among bees in the locality in which the wasps' nest was taken. While bee-keepers may view with equanimity, perhaps not unmixed with satisfaction, the destruction of wasps by so fatal a disease, yet, in view of the fact that wasps so frequently approach and even enter hives, they may be the means of spreading foul brood and render futile all our efforts to get rid of it. It is from this point of view that I would ask those of your readers who may be destroying

wasps' nests, especially in neighbourhoods where foul brood is known to exist, to examine the brood for signs of disease before burning it. The simplest way to destroy a wasps' nest, or rather all life in it, is to pour about 2 oz. of carbon bisulphide into the entrance, which should then be carefully closed. The vapour soon kills all the wasps, and the combs can then be dug out and burnt. The carbon bisulphide should not be ignited ; its vapour is much more poisonous than its products of combustion.—WALTER T. REID, *Fieldside, Addlestone, August 5.*

THE POETS' BEES.

[4458.] Few poets, so far as my reading goes, have devoted a whole poem to the bee, if we except Southey's "Busy Busy Bee," Emerson's "Humble Bee," Dr. Evans's lengthy poem on the bee, and Virgil's long description of bees in his Fourth Georgic. But many, if not most, of these "masters of the art Divine" have made some allusion or reference to the insects in one form or other. Their homes homes have been described as "Galleries of art and schools of industry," their produce as

> Combs of golden juice
> Not only sweet but fit for use.

The order and regularity in the hive has been pictured as fit to teach "the art of order to a peopled kingdom," and their domiciles have been exhibited as models—"Well appointed commonwealths where each adds to the stock of happiness for all."

What schoolboy has not had the bees' industry held up to him as a model to follow, and her persistent energy as an example to "improve each shining hour." The wanderer from the paths of rectitude has been told that he might learn "truth and virtue from the bee." Without seeking to "point any moral," let me "adorn my tale" by culling some sweets from the poets about the bees.

Virgil, "that wellspring from which the floods of eloquence have issued," as Dante describes him, seems to have made a special study of the bee, for his knowledge of the insect and its habits is wonderfully precise, and, as I hope at some future time to show, many of his facts and fancies read like modern ideas. He must have had a very high opinion of the creatures, as he asserts that a "bee is a ray of divinity," and, quoting perhaps the opinions of others who lived before his time, he says :—

> Some have taught
> That bees have portions of ethereal thought,
> Endued with particles of heavenly fires.
> For God the whole created mass inspires.

He had a very poetic idea of the queen, which, of course, he describes as king :—

> First of the throng and foremost of the whole,
> One stands confest the sovereign and the soul.

Shakespeare adopts much the same view :—

> They ave a king and officers of sorts.

And later on he speaks of the

> Tent royal of their emperor.

The old idea of queen, king, and emperor is exploded, and the ideal has now to give place to the real. Their monarch of the hive has been replaced by our egg-laying-machine, with no thoughts, claims, or aspirations after anything higher than maternal duties and cares. Their poetic sentiment of sovereignty is gone, and in this utilitarian age no poet can sing the praise of one who is only the mother-bee and slave of the humble worker.

If the poets notice the drone, it is to pour irony on him. Shakespeare notes his expulsion :—

> The sad-eyed justice, with his surly hum,
> Delivering o'er to executors pale
> The lazy, yawning drone.

And Dr. Evans says of him :—

> The unwieldy drones. Their short proboscis sips
> To luscious nectar from the wild thyme's lips.

The same author gives a graphic description of swarming :—

> And swift through ether rise the rushing swarms,
> Gay dancing to the beam their sunlight forms,
> Till round the fine twig-like clustering grapes they close.

The completed cells are aptly described :—

> Now in finished pride two radiant rows
> Of snow-white cells one mutual base disclose.

Thomson, in his poem of the "Seasons," deals with the sulphur pit :—

> Sudden the dark oppressive steam ascends,
> And, used to milder scents, the tender race
> By thousands tumble from their honied dome
> Into a gulf of blue sulphurous flame.

Flowers have ever been a favourite theme of song, and the close bond of alliance between the flowers and bees makes it certain that the poets will sound the praise of the latter, and so on this subject we come across some poetic gems :—

> Like new flowers at morning song of bees,
> Bloomed and gave up their honey to the lees.
> —Keats.

> The bees kiss now :
> Kiss me as if you entered gay
> My heart at some noonday.—Browning.

> Scarce less the flowers seem to enjoy
> Existence than the winged plunderer
> That takes its sweets.—Bryant.

> Where he hid you only could surmise
> By some Campanula blossom set a-swing,
> Who stammered, "Yes, I love you."
> —Browning.

> Even bees, the little almoners of Spring's bower,
> Know there is richest juice in poison flower.
> —Keats.

Trees, too, as well as flowers are visited by the bees, especially the flowering ones, so we find their praises sung :—

> The wind of May
> Is sweet with breath of orchards in whose boughs
> The bees make a perpetual murmur of delight.

> The linden in the fervours of July
> Hums with a louder concert.

> I bless the unknown hand to which I owe
> This annual festival of bees.—Bryant.

Whittier's "Bare-foot Boy" was

> Rich in flowers and trees
> Humming birds and honey bees.

The poet wandering in some solitary spot or mid the "deep umbrage" of a green hillside, communing with Nature, is cheered by the bees' glad hum—

> Bees from your garden hither soar
> To feed on new blown heath.—Wordsworth.
>
> He calls but he only hears on the flower
> The hum of the laden bee.—Bryant.
>
> And to her own green bower the breeze
> That instant brought two stripling bees
> To rest and murmur there.—Wordsworth.

I wonder if they ever rest when they are out foraging?

My last extract for the present is from Longfellow. Is it only a poet's fancy?

> All the signs foretold a winter long and inclement;
> Bees with prophetic instinct of want had hoarded their honey
> Till the hives overflowed.

F. E. I. S.

SHALLOW-FRAMES OF HONEY.

A STILL HEAVIER RECORD.

[4459.] Referring to the mention in your pages of a "Record Weight" for a box of shallow-frames containing respectively 68 lb. and 74 lb. net of extracted honey, may I say that last week I took off two supers containing sixteen shallow-frames, and the net weight of honey was 90 lb. I think this is still better than either of our bee-friends, Mr. Goodrich and Mr. Thorpe.

I also think the following is worth mentioning:—On May 21 last I put a skep of bees on the top of a frame-hive containing ten standard frames with full sheets of foundation. On June 24 I removed the skep and got from it 32 lb. of beautiful honey. I replaced the skep by a super of eight shallow-frames, and this super was taken off on July 27 containing 44 lb. of honey. If weather keeps good for another month I hope to get another super of 40 lb.—MORRIS W. JONES, *Llanfarian, near Aberystwyth, July* 31.

BEE-KEEPING NEAR LONDON

[4460.] Seeing that we rarely have a report in B.B.J. of bee-keeping in the suburbs of the metropolis, I thought a brief account of what has been done this season within six miles of Trafalgar-square might possess interest for our country cousins. It may also serve to enlighten some Londoners who have been reading "About Bees" in the *Telegraph* and *Daily Mail* recently. I not only keep some hives myself, but take much pleasure in helping others less experienced in the craft when I can. Among these are some ladies who take great interest in their bees, one of whom—Miss Landon, Carlton-road, Putney—appears to take the lead as far as successful results go. From one hive Miss Landon had already taken a rack of twenty-one 1-lb. sections, and on Saturday last, July 27, I removed for her from the same hive three other racks, each holding twenty-one 1-lb. sections all completed. The colony of bees referred to was a swarm of last year, and the parent hive from which it came yielded 108 well-finished 1-lb. sections in 1899. Several others, including myself, have had excellent harvests of honey this year, all of good quality. We have adopted the principle of the non-swarming hive, *i.e.*, giving room below the brood-nest, in several apiaries I know of, and the result is not a single swarm from the hives so treated, notwithstanding the hot weather.

I may say we have adopted our Editor's plan of wedging the hives up a little from their floorboards while the very hot weather lasted, so that a free current of air passed freely below the brood-nest. When this was done it was surprising to see how it relieved the bees of the labour of "ventilating" and started them off working again.—W. SOLE, 105, *Graham-road, Wimbledon, August* 2.

HEAVY SECTIONS.

[4461.] I think I can beat Mr. Gifford's "record" section (4444, July 25, page 297). I have one which scales 1 lb. 5 oz. On July 19 I removed the three middle frames from a "W.B.C." section-box, replacing them by fresh ones. The nine sections thus taken weighed respectively as follows:—21 oz., 17¾ oz., 17¾ oz., 17½ oz., 17¼ oz., 17 oz., and 16 oz., total 160¼ oz., or the nine sections weighed just over 10 lb.—G. S. NEWTH, *Wallington, Surrey, July* 27.

"ROYAL" SHOW AT CARDIFF.

LECTURES ON BEE KEEPING.

[4462.] I am but a mere novice among the very many bee-keepers who listened with pleasure and profit to the lectures given by Mr. W. Herrod, the B.B.K.A. expert of Swanley College. His demonstrations and lessons were marked by simplicity, clearness of expression, and a complete grasp of the subject. How he contrived to give an epitome of the "Guide Book" in the space of half an hour, was as surprising as it was skilful.

I am sure that all who had the privilege of hearing the lecturer must join with me in thanking very cordially indeed, both Mr. Herrod and the Association for so refreshingly helping bee-men and bringing the "sweet joys" of apiculture before the public in a very agreeable manner.—WILLIAM RICHARDS, *Gabalfa, Cardiff, July* 24.

LOCUSTS AND WILD HONEY.

BEE-KEEPING IN NATAL.

[4463.] In countless myriads they came, whirling, swirling through the air, their gauzy wings glittering in the morning sunshine, their shadows darkening the roadway as they passed overhead. A solitary horseman pressed forward through the swarm to the

little village that nestled on the hillside, among fruit trees and bananas. A short time before he had noted a strange, reddish-coloured haze, a curious cloud-mist float above the horizon, a mist that in passing over the distant hills turned the green of the summer fields to an autumn brown, and now enveloped him as completely and bewilderingly as any snowstorm.

It was Ned Brown's first experience of a locust swarm. His first inclination had been to turn back, but as Mr. Martin was hiving a swarm of wild bees, and he had promised to assist, he determined to go forward rather than disappoint his colonial friend.

The road was familiar and fairly good most of the way. To turn off the main road at the foot of the red hill and follow the sandy track across the spruit were easy directions at another time, more than difficult to-day. Like a living dust-storm the locusts swept along in hundreds, thousands, millions! impelled by one of the greatest forces in Nature—the force of hunger.

Martin welcomed Ned from the verandah, where he stood gazing despondently at a field of maize. In spite of the waving of flags and beating of "tom toms," in spite of all efforts to the contrary the locusts were "settling." The crops were doomed! As anxiously as Hiawatha, the young farmer, had watched 'first one green feather, then another from the ground spring slowly upward,' till now the grain stood high in shining robes and silken tresses. But the locusts had come. At night only a few tattered stalks would remain to show where the mealies had been.

After dinner the party set out in search of the bees. Inyoni led, a stalwart Kaffir, shouldering a hatchet and walking warily for fear of snakes. The other boys straggled in the rear. Diamon, with an empty box to house the bees, and Saloose, with great expectations of honey, judging from the size of the bucket she had brought. Expectations that soon were amply fulfilled, for, after a hot scramble through the bush, Inyoni brought them safely to the bottom of the kloof, where, through the guidance of the honey bird, he had found a huge hive suspended in the cliff.

Thorny mimosa trees lined the slope, their overhanging branches bound together by strong creepers into an even net work of green. Gay flowers of scarlet orange shone among the leaves, and at intervals a wild banana plant raised its graceful leaves above the surrounding foliage. Here in the stillness of the hollow, the wild bees hid their honey, and the weaver birds built their nests undisturbed among the trees.

There was no sound. Only once during the encounter a grey-faced baboon barked "danger" to his clan. The plunderers listened, but nothing came of it, and the laggard bees, returning in the twilight, found their home had gone! Ned filled the buckets with the spoil, while Martin, resting on a mossy boulder, where the dark leaves of a giant fig-tree cast a grateful shade, helped himself liberally to the honey-comb.

A minute later he sprang forward with a cry of pain.

"Stung again?" queried Ned.

"Yah, and on the tongue, too," he exclaimed, flinging the close of the sentence at the offending bee.

Ned offered to remove the sting. There was a drawing pen he remembered on his desk, and a pair of——no matter. Martin assured him he would be better if only he had something to drink.

Lessel's place, by the sugar-fields, was nearest. Martin hurried away, leaving Ned to hunt round for the puff-ball and follow with the bees.

Farmer Lessels, looking up carelessly from the compound of arsenic and treacle he was mixing for the locusts, noticed some one panting, hatless and breathless, up the slope. He set down the bucket, came forward, then halted abruptly.

Martin's appearance was not prepossessing. His white suit, thickly peppered with "ticks" and embroidered with thorns, bore evidence of a rough scramble through the bush. Rents and tears, diagonal and cross-wise, intersected patches of brilliant colour. The cliff had left a red streak, the moss had lent a green, here they appeared singly, there they combined, suggestive, respectively, of a child's first map and a landscape after Turner. His swollen face was crimson with the heat. His pearl neck-stud showed where the starch had been and looked as much out of place as the amber honey-drops that glittered in his hair.

Martin tried to speak; to ask something to drink, no matter what—water, beer, or pineapple wine, claret or lemonade—but his smitten tongue refused. He raised his hand in the motion of draining a cup, but his hopes fell as he watched the farmer's face grow grave, heard him conclude it was not sunstroke, and mutter something about having had his suspicions from the first. Young men were so easily led astray.

Again he strove to speak, almost wild with the pain, but by this time the farmer was deep in a dissertation on the evils of intemperance, his listener's sorrowful condition serving as a text.

Martin was too angry to be amused. Looking round in dismay he spied Inyoni, and pointed him out eagerly, as much as to say, "Ask him to explain." But a Kaffir's liveliest sense is his sense of humour. His master's appearance and the farmer's mistake had already proved too funny for Inyoni. Almost helpless with mirth he rolled over on the grass, and at the farmer's first question went off into fits of uncontrollable laughter.

While Martin was endeavouring, by means of a severe shaking, to bring Inyoni to his senses, the farmer's wife appeared, a plump

little Dutch woman in print dress and kapje. She seemed at once to grasp the situation, ordered two Kaffirs to hold Martin fast, sent others off in various directions to do her bidding. A little "umfaan" returned with a book just as Ned Brown appeared on the scene. He glanced from one to another, each looking as fiery as the sunset behind, then at the book. She ran her finger down the index "page 164, paragraph 1408, How to cure *fits!*"—MARY RITCHIE, *Thornhill, Bellau, Natal.*

WEATHER REPORT.

WESTBOURNE, SUSSEX,

JULY, 1901.

Rainfall, 1·75 in.
Heaviest fall, ·47 in., on 23rd.
Rain fell on 8 days.
Below average, ·82 in.
Maximum Temperature, 80°, on 19th and 20th.
Minimum Temperature, 47°, on 17th.
Minimum on Grass, 0.
Frosty Nights, 0.
Sunshine, 268·2 hrs.
Brightest Day, 11th, 15·5 hours.
Sunless Days, 1.
Above average, 44·3 hours.
Mean Maximum, 69·5°.
Mean Minimum, 54·6°.
Mean Temperature, 62°.
Above average, 1·5°.
Maximum Barometer, 30·46°, on 17th.
Minimum Barometer, 29·65°, on 26th.

L. B. BIRKETT.

Queries and Replies.

[2700.] *Dead Bees in Non-Swarming Chamber.*—I shall be glad of your help in the following case:—On April 23 I put in the supers (with shallow-frames fitted with strips of foundation) in a non-swarming hive. On the 22nd inst. I found (to my surprise) that the bees had put their dead in the non-swarming chambers to the extent of 9 oz. (the least) to 14 oz. in the greatest; there were living bees as well. But no work had been done on the frames. In the supers on the top of the brood-chambers the bees are crowded; doing well, considering the season here about. I therefore ask:—Is my experience with "non-swarming chamber" common or exceptional? I am thinking (before using these chambers again) to fit them with entrances in line with their bottoms; then, perhaps, the bees would keep them clear of the dead. Your opinion or suggestions will be thankfully received.—W. C. H., *South Devon.*

REPLY.—April was altogether too soon to put on a non-swarming chamber in so backward a spring as we had. All carrying out of dead bees should be done with before thinking of taking steps to stop swarming; therefore, it only needs attention to this fact to avoid a recurrence of your trouble.

[2701.] *Transferring Bees.*—Would you kindly give me a little advice through your valuable JOURNAL? I only started bee-keeping last May, when I bought two stocks—one in a skep, the other in an old cheese-box. I put the skep on the top of a frame-hive containing seven frames of worked-out combs, and three fitted with foundation. I examined them on June 25. All the frames were full of brood and honey. In the skep all trace of brood was gone and the combs filled with honey, which, when taken off, weighed about ¼ cwt. As for the other stock in the cheese-box, I fixed another box round it and put on a rack of sections, but up to the present time they are not half filled. 1. Would you advise wintering them in the box they are in, or drive them and put them in a frame-hive? I could spare them two or three frames of sealed honey from other hives. 2. Would it be possible to transfer some of their sealed brood into frames and give them? 3. What number of frames would you give them?—W. G., *Sherborne.*

REPLY.—1. By all means winter the bees as they are. A novice in bee-keeping is so apt to go a bit wrong in first attempts at transferring that you will winter the bees more safely in the cheese-box. 2. Of course it is possible and easy for an old hand to get through these operations, but in your case wait till more experience is gained.

[2702.] *Bees Refusing to Work in Sections after Swarming.*—Will you kindly advise me what to do in the case as stated below? On June 18 one of my hives sent out a second swarm, which I returned to the parent hive the same evening, and as there was a large surface of sealed brood in the hive I put on a rack of sections. The young queen, however, seems to have been long in getting mated, as egg-laying did not begin until July 2. Meantime a honey-flow set in, and as fast as the brood hatched the cells were filled with honey. When the young queen commenced laying I removed two of the honey-clogged combs and inserted foundation, and subsequently I gave them a frame of empty comb; but while part of these frames were utilised by the queen, this was not done nearly to the extent which I considered a young queen ought to do, the greater part of the brood-combs being filled with honey, while into the sections the bees persistently refuse to go. Can you suggest anything I could do to force the bees into the sections? The weather here is very warm and limes coming into bloom.—JNO. ANDERSON, *Selkirk.*

REPLY.—Under the circumstances you cannot force the bees into sections, nor can it be expected that a queen only a few weeks mated can produce eggs in such quantity as a more matured "mother-bee" would. We should remove the sections and be content with any

surplus (over a full supply for winter) that may be stored in brood-combs.

[2703.] *Removing Skep from top of Frame-hive.*—Could you give me a word of advice on the above? I placed a stock of bees in skep over top-bars of a frame-hive early in June, for the bees to transfer themselves, which they have done. At the end of June I examined lower hive and found brood in frames, and so concluded that the queen was then below; but I was mistaken, for on looking again a short time after, I found her above excluder, and brood in the skep. I then removed the queen and placed her below. This is now three weeks ago, and the skep is very full of honey and bees. Can you advise me how to remove skep?—A BEGINNER, *Stone, Staffs., Aug.* 5.

REPLY.—There will be no more difficulty in removing the skep than an ordinary rack of sections by using a little smoke. If broodless when taken off and the queen safe below, the combs of skep may be cut out and extracted.

Echoes from the Hives.

Abergwili, Carmarthen.—We have had a splendid season for good honey this year—the best and heaviest return for some years (I enclose a sample). Although it was cold and wet till mid-June, from that time forward we had excellent weather, and in consequence bees very bsuy on the white clover and lime trees from daybreak till sunset. I never before noticed the bees at work so early and late. And I can say without prejudice that some of my strongest hives have nearly completed 100 lb. each in supers. If we have another week or two of fine weather after the rain of last week, my bees will easily exceed that weight. Hoping all our sister and brother bee-keepers are having the same luck as ourselves, I wish them all every success; also the BEE JOURNAL and our Editors—though the latter are answering our questions and advising us so plainly that there is no trouble to anybody, Welsh or English, wise or unwise, rich or poor, old or young, in becoming a good bee-keeper.—DAVID DAVIES, *July* 29.

The Woodbines, St. Brelades, Jersey, C.I., August 3.—Since my last "Echo" we here have had some tropical weather, the temperature in the sun being at or above wax-melting point. We have had it as high as 112 deg. in the sun and 90 deg. Fahr. in the shade. Flowers have withered away and destruction of the drones by the bees all point to the closing of the honey season (a good one in my case). A few hives at the heather are the only remains of work in hand, and the diminished "hum" at the "factory" entrance indicates that work is nearly over for the season of 1901.—With best wishes to all BEE JOURNAL readers, WILLIAM W. KAY.

Bee Shows to Come.

August 15, at **Goole**.—Bee and Honey Show in connection with the Goole and District Agricultural Society. Six open classes, including one for single 1-lb. jar (entry free). Schedules from J. Luddington and H. S. White, Secs., Lindum House, Goole. **Entries close August 10.**

August 15, at Abergwili, Carmarthenshire.—Abergwili Horticultural and Agricultural Society's Show. Open class for single 1-lb. jar extracted honey (entry free). Prizes, 10s., 7s. 6d., 5s., and 2s. Particulars from Thos. Rice, Secretary, Abergwili.

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes.

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes for single 1-lb. section and single 1-lb. jar extracted honey, also classes for three sections and three 1-lb. jars, light and dark honey.—Particulars from Mr. Ivor Morris, Hon. Sec., Ammanford, R.S.O., Carmarthen.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances. Six Open Classes for Honey. Schedules from S. Cartwright, Hon. Secretary, Shropshire B.K.A., Shawbury, Shrewsbury. **Entries close August 9.**

August 21 and 22, at Newcastle-under-Lyme.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

August 24, at Barnton, Northwich.—Honey show in connection with the flower show. Honey department—seven local classes and one class (open to all Cheshire) for twelve 1 lb. jars "light" honey. The Cheshire B.K.A. bronze medal goes to winner of first prize in this class. Schedules from the Hon. Sec., Mr. S. Wade, Barnton, Northwich. **Entries close August 17.**

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes (four open) for hives, honey (light, medium, and dark), sections, &c. Schedules from T. A. Beckett, St. Werburgh's Chambers, Chester. **Entries close Aug. 7.** (At double fees to Aug. 14.)

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt.)

September 10, at Cartmel, Lancs.—Honey show under the auspices of the Lancs. B.K.A., in connection with the show of the Cartmel Agricultural Society. Three open classes for honey. Schedules from W. Cragg, Cartmel via Carnforth.

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

TRIESTE (Austria).—*Honey Samples.*—The sample is too dark in colour to find favour here as a table honey. It is also very adhesive in character, so that we need not wonder at combs breaking down in the extractor. We have little doubt that the honey comes from the olive trees, as supposed, and it would not, we think, find favour here for table use, being rather coarse, such as would be used in making up honey-cakes or confectionery.

T. E. HAWKINS (Chesterfield).—*Sowing White Clover Seed for Bee Forage.*—With regard to the question of it "paying" a bee-keeper to sow white clover seed for his bees, we don't think it ever will. The bees should be kept where white clover is grown by the farmer for his own profit regardless of bees. A few shillings spent on seed for such early bee-forage as is not obtainable free in the fields may be helpful, but as for bee-keepers sowing largely for bee pasture, "the game is not worth the candle."

I. M. (Worthing).—*Honey Labels.*—We do not think there will be any difficulty in getting labels, shown on page 30 of "Guide Book," by applying to any leading manufacturer of bee appliances.

J. WRENCH, W. C. J., EDWD. MANN, and Others.—*Coloured Glasses for Grading Honey.*—In reply to your inquiries regarding the coloured glasses issued by the B.B.K.A., we beg to say they can only be had from the Secretary, Mr. Edwin H. Young, at the office of the Association, 12, Hanover-square, London.

C. C. J. (Diss).—*Fermenting Honey.*—The only explanation we can offer, to account for fermentation having started in sample sent is that it may be the thin portion of bulk which rises to the top because of being less ripe than the remainder, which by reason of its greater density sinks to the bottom. Your sample is badly fermented, and we had to prick the cover of jar on arrival to prevent the parchment-paper from bursting.

J. B. WILLIAMS (Merioneth)—*Queen Bee Found Outside Hive.*—1. It is a common occurrence to find young queens on the ground below entrance of hives which have sent out a swarm eight or ten days previously. You should take an early opportunity of examining the parent hive a fortnight or so after the top swarm issued in order to be sure that the young queen, now heading the stock, is safely mated and laying. 2. The mutilated "drone grubs" you mention as being cast out need cause no alarm. It is merely a sign that the bees have done with swarming for the year.

D. H. (Hassocks).—*Bee Nomenclature.*—The insect sent belongs to the Bombus, or Humble-bee, species.

REV. E. L. (Ashbourne).—*Varieties of Heather.*—The variety commonly known as "Ling is the best of all heaths for bee-forage. We hope to illustrate varieties of heaths next week.

J. ARMSTRONG (Conwood).—*Old Bee Works.*—We are obliged to you for sending dates of books, but it is obvious that, except for the collector or antiquarian, books on bee-keeping issued twenty (or even ten) years ago are of little practical value to-day in view of the advanced methods now in use.

I. S. E. S. (Hythe).—*Moth-Infested Hives.*—The compartment of double-hive infested with moths will need nothing beyond brushing out well to remove all trace of the eggs or larvæ of the moth. It needs no disinfecting at all.

F. B. M. (East Acton).—*Using Preventives against Foul Brood.*—No harmful results to bees or damage to flavour of honey will attend the use of naphthaline in hives as directed in "Guide Book."

A. ROYDS, JUN. (Bishop's Waltham).—*Publication of Prize Awards.*—It will suffice to say that our footnote on page 301 last week has brought your assurance that 2nd and 3rd prizes were awarded at the Swanmore Park Show on July 24 last without adopting the unusual course of duplicating the list of awards in print; but please bear it in mind when again reporting your show.

Honey Samples.

E. W. C. (Cornwall).—1. Honey is good on all points, so we need not enumerate them. It is mainly from white clover and is suitable for exhibition anywhere. 2. A judge would not attach any importance to the design on metal caps of jars when making his awards.

CONSTANT READER (Llanidloes).—1. If you will allow the honey to stand in a warm place till the air bubbles rise to surface,

then skim them off, it will do very well for the show-bench. 2. No one to our knowledge "puts up" samples of "honey from different kinds of flowers."

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, ee Journal," not "Manager."

M. F. SMITH (Oxford).—The outward signs of disease were not so marked as to be readily discernible to a beginner, but microscopical inspection shows plainly an abundance of rods of bacillus alvei in the cells.

DAVID GEORGE (Glam.), YOUNG BEE KEEPER (Shildon), J. B. (Cardiff).—Samples of comb sent by above are all affected with foul-brood.

M. B. (co. Cork).—Comb is pollen-bound, and, in consequence, unfit for bees' use. The part of queen-cell seen indicates that the colony was already queenless.

J. H. (Brodick, N.B.).—Comb is affected with foul brood. We are sorry for delay in this reply, but you sent no name with sample of comb, and it got astray in consequence.

F. W. F. (Trecynon).—The stock from which comb sent was cut should be burnt at once. During the two years since the purchase was made it has, no doubt, been a source of mischief to all the bees in your locality.

JOHN PRATT (Pozzuoli, Italy).—There are slight signs of disease in comb, which was also badly infested with wax-moth of the most formidable kind—viz., *Galleria cereana*, so it was wise to destroy it. A packet of naphthol beta weighs a little over 1 oz. Can it be posted to you at book rate?

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

STRONG HEALTHY LOTS of DRIVEN BEES, 3s. on rail; ditto with Fertile Queen, 1901, 4s., guaranteed. Address, "Expert," *Bee Journal* Office. H 29

HONEY FOR SALE, Clover and Sanfoin, 56s. a cwt. Tins and Crates free; samples 3d. H. MAY, Kingston, Blount, Watlingford. H 22

HEALTHY DRIVEN BEES 1s. 3d. per lb. Not less than four lb. lots. Boxes to be returned. E. LONG, Fulbourne, Cambs. H 27

TWO splendid ten-frame HIVES FOR SALE one super each, 25s. each. DRIVEN BEES, 1s. 3d. lb. packed on rail; packages free. NORTH, Sidney Cottage, White Notley, Witham, Essex. H 21

NEW (33s. 6d.) GEARED EXTRACTOR, little used; parted with for no fault. What offers in white clover, or driven bees? NEWMAN, 57, Coldharbour-lane, London. H 24

Prepaid Advertisements (*Continued*).

GENUINE IMPORTED ITALIAN QUEENS.—Purity and safe arrival guaranteed. Post free with Introducing Cage, full instructions for introduction, 6s. F. SLADEN, Ripple Court Apiary, near Dover. H 25

EXCELLENT White Clover HONEY FOR SALE, 6d. per lb., in bulk; sample 3d.; also a few dozen clean Shallow Frames, warranted free from disease. What offer? HEGLEY, Expert, Timberhonger, near Bromsgrove. H 23

WANTED, 200 QUEEN BEES, dead or alive, virgin or fertile; 200 Queen Cells, sealed or newly hatched. State lowest price for this number or any smaller number. BONNER CHAMBERS, Diptford, South Brent, S. Devon. H 28

APIARY of 20 STOCKS of BEES, mostly in good Bar-frame Hives, FOR SALE, as it stands, including a liberal assortment of modern Bee-keeping Appliances, together with a lock-up Shed. Roomy COTTAGE, with large Garden, TO LET, near by. Good bee district. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

DRIVEN lots of BEES with Queens, 3s. Boxes returned. PULLEN, Ramsbury, Hungerford. H 8

HONEY LABELS, new design. Send stamp for sample. GUEST, Kings Norton, Birmingham. G 97

EPILOBIUM ANGUSTIFOLIUM, hardy perennial, plant in October, 12s. dozen. BADCOCK, Florist, Bexhill. H 1

HONEY JARS—1-lb. screw-cap, 17s.; tie-over, 12s. 6d. per gross, on rail. JAS. DYSON, Stainforth, Doncaster. G 98

25TH YEAR.—Small SWARMS with Reliable Queens, 5s. 6d. Package free. Queens, 3s. 9d. delivered. ALSFORD, Expert, Blandford.

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

OVERSTOCKED.—Six strong healthy STOCKS of BEES FOR SALE in frame hives. BIRCH, 2, Station-terrace, Hosforth, Leeds. H 3

HEALTHY Driven BEES, 3s. a lot; 5, 6, and 7-lb. lots, 1s. lb.; safe arrival. Cash order now for August delivery. Hybrid Cyprian Queens (Nov.), 3s. 6d. SPEARMAN, Colesbourne, Cheltenham H 16

FINE PROLIFIC Tested, 1901 Fertile QUEENS, of my well-known strain, 3s. 6d. each, post free; guaranteed healthy and safe arrival. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. H 17

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d. per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d, 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2¼, 3, and 3¾ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s 0d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

Editorial, Notices, &c.

DEVON BEE-KEEPERS' ASSOCIATION.

The fourth annual show of the D.B.K.A. was held on the 2nd inst. at Exeter, in connection with the Devon and Exeter Horticultural Flower Show. The weather was very fine and the attendance good, especially in the evening, while the Association display was quite up to its usual high standard. The season's honey harvest has been only fairly plentiful, but the quality is universally very good, and there seems to have been a total absence of aphis honeydew. The prizes were well distributed throughout the county. Col. Walker acted as judge, and made the following awards :—

Twelve 1-*lb. Sections* (15 entries).—1st, C. Marks, Kingsbridge ; 2nd, C. Squire, Mortehoe ; 3rd, Rev. H. M. Burdett, Northmolton ; h.c., Major H. W. M. Shewell, Honiton ; c., Mrs. Brealey, Sampford Courtney.

Three Shallow-Frames Comb-Honey for Extracting (8 entries).—1st, J. B. Houle, Chittlehampton ; 2nd, J. Seldon, Umberleigh ; v.h.c., E. E. Scholefield, Chudleigh.

Single 1-*lb. Section* (17 entries).—1st, C. Marks ; 2nd, J. Seldon ; 3rd, H. Patey, Chillington ; 4th, C. Squire ; v h.c, Rev. H. M. Burdett.

Twelve 1-*lb. Jars Light-coloured Extracted Honey* (15 entries).—1st, Miss Susan Hole, North Tawton ; 2nd, Mrs. Woosnam, Newton Abbott ; 3rd, C. Marks ; v.h.c., Mrs. M. A. Phillips, Kenton ; h.c., G. H. Forster, Yealmpton, and J. B. Houle ; c., J. M. Cann, Brixham.

Twelve 1-*lb. Jars Dark-coloured Extracted Honey* (13 entries).—1st, E. E. Scholefield ; 2nd, R. Furse, Woodbury ; 3rd, Mrs. M. A. Phillips ; h.c., Miss M. Pittis, Uplyme, and Mrs. Woosnam.

Six 1-*lb. Jars Granulated Honey* (7 entries).—1st, A. W. Barker, Cockington ; 2nd, Mrs. M. A. Phillips ; c., J. Hookway, Wellington.

Beeswax (*not less than* 1 *lb.*) (9 entries).—1st, Mrs. Woosnam ; 2nd, E. E. Scholefield ; v.h.c., Mrs. M. A. Phillips.

Display of Honey, Wax, and Honey Products.—1st, J. Seldon.

Single-Frame Observatory Hive, with Queen and Bees (3 entries).—1st, E. E. Scholefield.

Display of Hives and Bee-keeping Appliances (no prizes).—V.h.c., J. T. Burgess & Son, Exeter. J. Trebble, Romansleigh, South Molton, exhibited, but desired to have no award.—(*Communicated.*)

LEICESTERSHIRE B.K.A.

The L.B.K.A. usually hold their annual show in connection with that of the Leicestershire Agricultural Society held in June, a date too early for showing honey of the current year in quantity. In consequence a second exhibition has for several years past been held at the Abbey Park Flower Show in Bank Holiday week, and the latter has invariably proved by far the more successful as a honey show, for the reason stated above. This year, for several reasons, it was decided to hold one show only, which was held at Abbey Park on August 6 and 7. The result was very satisfactory, a good-sized tent being well filled with an excellent display of exhibits. Mr. Meadows kindly staged a large collection of appliances (not for competition), thus adding much to the interest of the display.

The exhibits of extracted honey, especially those of light colour, were exceptionally good in quality. Sections, however, were not quite so evenly filled and sealed as in some years. The honey trophies were all splendid displays, and proved a great attraction.

Mr. A. G. Pugh, of Beeston, Notts, acted as judge, ably assisted by Mr. Rielly, of Leicester. Both gentlemen gave addresses in the bee-tent, Mr. Faulkner, of Market Harborough, acting as manipulator. Very large audiences were present, and favoured with beautiful weather on both days, the whole show was a great success.

The awards were as follows :—

Observatory Hive, with Queen and Bees.—1st, S. J. Cooper, Leicester ; 2nd, A. Beadsmore, Woodhouse Eaves.

Twelve 1-*lb. Sections.*—1st, J. Waterfield, Kibworth ; 2nd, H. Dilworth, Shaughton ; h.c., E. O. G. Head, Market Harbro'.

Twelve 1-*lb. Jars Light-coloured Extracted Honey.*—1st, J. Waterfield ; 2nd, A. W. Garner, Waltham ; 3rd, J. G. Payne, Sutterworth ; 4th, S. Spray, Melton Mowbray ; h.c., H. Smith, Melton Mowbray ; H. Dilworth ; S. Smith, Watton Grange.

Twelve 1-*lb. Jars Dark-coloured Extracted Honey.*—1st, J. Waterfield ; 2nd, G. Proudman, Thrussington ; 3rd, G. J. Levers, Loughboro'.

Twelve 1-*lb. Jars Granulated Honey.*—2nd, S. J. Cooper ; no 1st awarded.

Honey Trophy.—1st, J. Waterfield ; 2nd, H. Smith ; 3rd, S. J. Cooper.

Six 1-*lb. Jars Light-coloured Extracted Honey* (novices).—1st, S. Smith ; 2nd, J. G. Payne.

Six 1-*lb. Jars Dark-coloured Extracted Honey* (novices).—2nd, G. Hayward.

Six 1-*lb. Sections* (novices).—2nd, G. J. Levers.

Honey Beverage.—1st, J. Wild, Little Dalby ; 2nd, A. W. Garner.

Honey Cake.—1st, Mrs. Waterfield ; 2nd, Miss Cooper.—(*Communicated.*)

HONEY SHOW AT LEAMINGTON.

At the annual show of the Leamington St. Mary's Horticultural Society, held at Leamington on August 6, a very fine display of honey was made, and the committee are to be con-

gratulated on the success of this new feature of their annual exhibition. The honey section included three open and two local classes, with a total of thirty-six exhibits. These exhibits were so uniformly good that the judge (Mr. Geo. Franklin) had a difficult task in awarding the prizes. In addition to the above, Messrs. H. Cleaver and J. Tew exhibited (not for competition) a really fine stand of comb and extracted honey, including an observatory hive, which was very highly commended.

The show was opened by the Countess of Warwick, who takes a keen interest in bee-keeping, and expressed regret at her inability to stay for one of the demonstrations which were given at intervals during the afternoon in the bee-tent by Mr. Geo. Franklin for the Warwickshire County Council, and which attracted a considerable amount of attention from the numerous visitors.

The prizes were awarded as follows :—

Six 1-lb. Sections.—1st, D. Phillips, Woollerton ; 2nd, John Walton, Weston ; 3rd, H. Cleaver, Leamington.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st, S. Tumbletts, Andover ; 2nd, C. Cox, Brompton ; 3rd, W. H. Allard, Napton Holt.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, Mrs. E. Tew ; 2nd, J. Burrows ; 3rd, H. Cleaver.

Six 1-lb. Sections (local).—1st, R. Cleaver ; 2nd, J. Tew ; 3rd, H. Cleaver.

Six 1-lb. Jars Extracted Honey (local).—1st, J. Tew ; 2nd, W. Faulkner ; 3rd, R. Cleaver.—(*Communicated.*)

HONEY SHOW AT CHETNOLE, DORSET.

The ninth annual show under the auspices of the Yetminster District Bee-keepers' Association was held in delightful weather on August 8, in the grounds of "Foys," Chetnole, by kind invitation of Mrs. McCall.

The entries were not so numerous as last year, but the quality of the exhibits (especially in comb-honey) were of so high a standard as to render judging a difficult task.

Mr. M. H. Tilley, Dorchester, and Mr. F. Chapman, Wells, Som., officiated as judges, and made the following awards :—

Standard-Frame of Honey.—1st, G. Leeding, Bradford Abbas ; 2nd, C. Smith, Bradford Abbas ; 3rd, F. Trott, Leigh ; 4th, T. Bishop, Bradford Abbas.

Shallow-Frame of Honey.—1st, A. Buckland, Thornford ; 2nd, F. Trott ; 3rd, G. Leeding ; 4th, T. Bishop.

Four 1-lb. Sections.—1st, P.C. Bishop, Compton ; 2nd, T. Bishop ; 3rd, Miss A. M. Ffooks, Totnell House ; 4th, F. Trott.

Bell Glass (over 10 lb.).—1st, G. Leeding ; 2nd, T. Bishop ; 3rd, T. Trott ; 4th, P.C. Bishop.

Bell Glass (under 10 lb.).—1st, G. Leeding ; 2nd, T. Trott.

Beeswax.—1st, C. Smith ; 2nd, J. Andrews, Thornford ; 3rd, T. Bishop.

Collection of Honey and Wax.—1st, T. Bishop ; 2nd, P.C. Bishop.

Champion Collection.—1st, G. Leeding ; 2nd, T. Trott.

Single 1-lb. Section (open).—1st, H. F. Beale, Andover, Hants ; 2nd, G. Leeding ; 3rd, F. Trott.

Single 1-lb. Jar of Honey (open).—1st, Rev. W. A. Allen, Nailsworth, Gloucester ; 2nd, R. Dutton, Terling, Essex ; 3rd, Rev. W. Head, Brilley Vicarage, Whitney-on-Wye, Hereford.

Bee Flowers (open). — 1st, Miss Hilda Leeding, Bradford Abbas ; 2nd, P.C. Bishop.

Light Honey.—1st, F. Trott ; 2nd, G. Leeding ; 3rd, T. Bishop ; 4th, J. Andrews.

Dark Honey.—1st, W. Pomeroy, Bradford Abbas ; 2nd, A. Buckland, Thornford ; 3rd, J. Andrews ; 4th, Rev. G. Wickham, Bradford Abbas.

Bee-Driving Competition (members only).—First competition : 1st, G. Leeding ; 2nd, P.C. Bishop ; 3rd, J. Hart. Second competition : Equal, T. Bishop and R. Jeans.—(*Communicated.*)

*** *We are reluctantly compelled to hold over reports of several shows, already in type, until next week.*

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of July, 1901, was £14,237.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*** *In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

BEES IN SOUTH AFRICA.

[4464.] Although it is some time since I wrote to the B.B.J., I often think of the bees and friends left behind in the dear old country, and although only four years have passed since I came out here, some of the friends have already passed away, and correspondents unknown to me have appeared as contributors to our journal. We have the war curse still with us, and although not very close to the seat of hostilities, we see evidences in the shape of maimed and wounded soldiers from the front. It makes those who are near these sights pray the time when some other way of settling disputes may be found

than the arbitrament of the sword. In my last note to the B.B.J. I explained how different were the conditions of bee-keeping in South Africa, so that it was like starting afresh. One of your readers out here, dwelling some distance up country, took exception to my statement, and wrote me to that effect, and wished to correspond with me on the subject, but I have no time for private discussion, and so will answer him in the BEE JOURNAL. At the same time, it may possess interest for readers at home.

To begin, then, the bees are quite different. Of the kinds I have come across, one is a very small dark bee, another somewhat larger; some have three bright bands round the abdomen, and these latter are easily subdued. I seldom require a veil when at work with them; the only time they are at all spiteful is in the middle of very hot days; they are great crawlers, especially by night, and are more apt to get up your sleeves than the English bee. If you first hive them in a straw skep, as at home, and then shake them down in front of the frame-hive to let them run in, they will often take wing and fly right off. All the honey I have tasted here is of peculiar flavour, quite different from British honey. The bee-flora also—with the exception of fruit trees—is not the same. A lot of the honey plants out here are such as I never saw before, and there is no book or record of their names here to be had. Then the seasons are not a bit like they are at home. It is now (July 6) mid-winter, yet I have the bees working in shallow-frames and sections, and am expecting to get more off the hives this winter than I have had since I arrived here. Fancy having a natural swarm at Christmas in the middle of winter; and yet I have this afternoon hived a splendid swarm. Several others of our hives have also swarmed this week. I have found out that after we have had rain, no matter what time of the year, you will get honey. In this way, then, the showers are the salvation of our honey crop. We have some difficulty in getting the swarms to stay in frame-hives, and require excluder-zinc to confine the queen to the hive until the bees settle down.

Most of our houses here are made of galvanised iron, lined with board; indeed, this is a noted place for these iron buildings, and the houses generally contain two or three swarms between the wood and iron. The bees seem to have a contempt for our new hive, never having been used to them, I suppose. The queens are very prolific. I have stocks with twelve to fourteen frames crammed with brood. I hope to send you some empty comb, in which I think you will find smaller cells than in English combs. I should say the cells here would run five or six to the inch, but have never measured them myself. In all the strong hives drones are found all the year round. The bees here are splendid workers, labouring from daylight till dark when fine. They stop working, however, in the middle of the day when very hot. Then, as already said, we have the bee-enemies to contend with. I shall be sending you some specimens for inspection ere long. Finally, and after all my experience since I wrote last, it has only confirmed the opinion I then expressed—*i.e.*, that bee-keeping here is very unlike what it is at home. The bees need two things, viz., plenty of air when it is hot (which is very often), and plenty of room, and no warm wraps to keep the cold out.—J. MARTIN, *Walmer, Port Elizabeth, South Africa, July* 6.

EGG-LAYING BY THE QUEEN-BEE.

[4465.] Major Campbell, in your issue of August 8 (page 313), has drawn the attention of your readers to a very interesting subject, which I am sure must often have been suggested to the minds of observant bee-keepers. The whole matter rests upon the following question:—Does the queen or does she not use her sting as an auxiliary organ in egg-laying? Major Campbell, who, to my personal knowledge, is a first-rate observer, thinks not, and I am not at all surprised at the view he takes regarding the use of the sting.

I am of the same opinion as the Major when he says: "I think it is reasonable to suppose that a natural act of this sort is performed in the same way by queens under any and all circumstances." Unquestionably the mode of laying is the same under all circumstances.

As is well known, the whole stinging apparatus is so exceedingly hard in substance, taking up, as it does, the greater part of the latter segments of the abdomen, that it is perfectly reasonable to suppose, even had it never been actually witnessed, that the queen during the process of laying would act as Major Campbell has observed. I have myself repeatedly seen the queen-bee while actually laying eggs work her sting up and down, as if by such an act the process were made easier. I think it is simply common sense to suppose that such would be the case. But must we not seek an answer to our question from a different and more fundamental source?

The question is, what relationship exists between the sting and the egg-laying organs? Surely they both belong to the same system, and bespeak the feminine sex. The sting is essentially a part of the female and not the male. Would it be surprising, then, if one organ assisted the other, though perhaps in a very small degree?

Further, what do we understand by the sting of the Aculeata being homologues of the ovipositor of allied species, and does not phylogenetic development teach us the relationship one with the other? Surely we have the answer to our question. And may we not conclude from these deductions—which, after all, are the key to the subject—that it is not unlikely, though by no means certain, that the sting of the Hymenoptera does play

a part in the function of egg-laying, considering how the ovipositor has been transformed from the sting into the useful adjunct for the conveyance of the eggs. In zoology generally no more convincing statements would be considered necessary.—R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., &c., *Dalry, Galloway, Scotland, August* 12.

FOUL BROOD AMONG WASPS.

[4466.] In this week's issue of BEE JOURNAL (4457, page 313) Mr. W. T. Reid writes with regard to foul brood among wasps, and I am distinctly of his opinion. My boy was out wasp-nesting last evening and brought me the queen wasp sent herewith. He said the cells were badly sealed over and had a hole in centre just as I showed him the diseased bees had, and that it emitted a bad smell. Will you kindly examine the wasp and ascertain if she really has foul brood?

I may mention that the nest, which was in a hedge, was 200 yards from my bees which are infected, also that last year there was a great scarcity of wasps, which I then attributed to foul brood. Within the past two or three years scores of stocks of bees have died in this immediate neighbourhood from the same disease. I will be glad of your opinion in next issue.—ENOCH WILLIAMS, *Bridgnorth, August* 10.

[The question raised by Mr. Reid is a most important one, and we hope to be favoured by him with a sample of the "viscid matter" mentioned for microscopical examination, along with your own sample.—EDS.]

QUEEN MATING AND EGG-LAYING.

[4467.] There is one point in connection with queens that I am uncertain about, and regarding which I do not find much information in the books—that is, the time that generally elapses between fecundation and laying.

My attention was first drawn to it some time ago when, in examining a nucleus which had a queen three weeks old, I found no eggs, which I had expected to find, as drones were very plentiful. Three weeks later I again looked through, only to find no brood whatever, but some honey. I therefore thought the queen must have failed to mate, and in consequence caught her and caged her with the intention of killing her. On inspection, however, she seemed to be such a handsome, well-developed insect that it seemed hardly possible she could be unfertile. I therefore replaced her, and did not again examine the hive for about a month, when I found a large quantity of sealed worker-brood, and they eventually developed into a very fine stock.

Calculating from the usual time given for the limit for fecundation, it appears that about three weeks must have passed before she commenced to lay, and I had a narrow escape of sacrificing a good queen. I should, therefore, be glad if you could let me know what is considered the average time to allow.

Fertile workers are very troublesome here in nuclei, as they start very soon, and on that account it is not a good plan to leave a queen too long, unless she is laying.

I have had a difficulty with some of my hives lately, as I found a number of dead bees in the morning at the entrance, also some that appeared to have lost the use of their legs. I noticed that the dead were curled up and had the tongue extended, but there was food in the hive, so that it is not starvation. The winter has been very cold, so it may be that the hives were not warm enough, and since I have put more quilts on they have improved, but as a rule I find a piece of carpet enough.—A. C. SEWELL, *Berea-road, Durban, Natal, S.A., July* 19.

[The time that "generally elapses" between successful mating and the commencement of egg-laying is from three to six days. In the case detailed above, however, the uncertainty seems to lie in the date when fecundation actually took place. Queens usually mate in three to five days after hatching out, but as many as thirty days have been known to elapse between date of birth and mating.—EDS.]

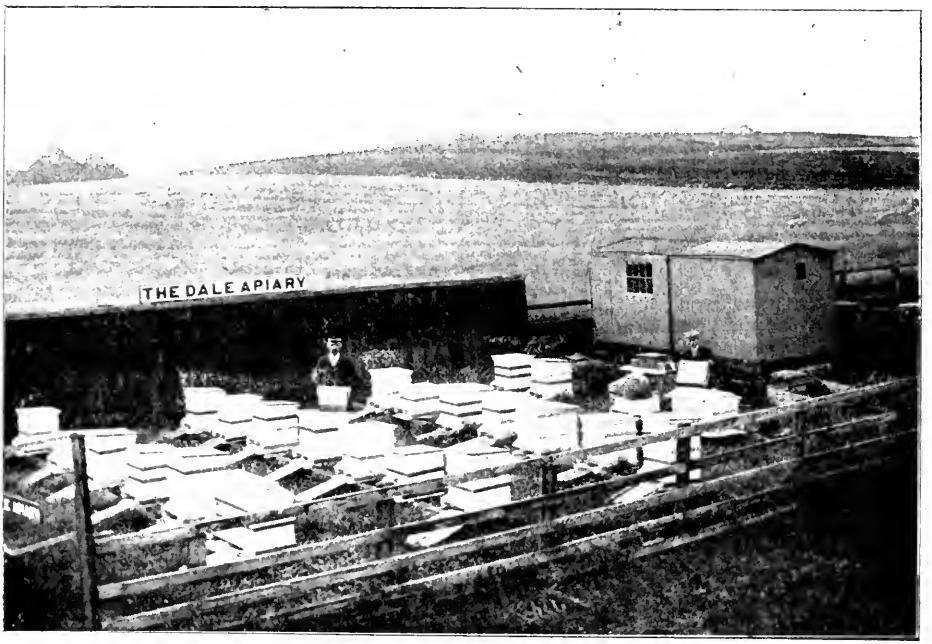
HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The apiary which forms our bee-garden picture this week is located on the Scarboro' and Whitby branch line of the N.E.R., where its owner, Mr. W. Appleyard, is stationmaster at Staintondale. Here on one side of the Yorkshire moor, with his friend, Mr. J. Rymer (also a stationmaster), on the other, it would seem that bee-keeping is a profitable home hobby, for we seldom get more satisfactory "Notes" from our readers than those forwarded by the two friends named above. Indeed, it would seem as if Mr. Appleyard, while perhaps less scientific or experimental in his methods than his well-known neighbour, is equally successful in securing honey in plenty and in finding a market for it. This much will be gathered from the following "Notes" sent at our request, which go to show what can be done by railway-men who are fond of bees and are at the same time bee-keepers of the right sort. He writes us as under:—

"I commenced bee-keeping about ten years ago with a late cast, which cost me the large sum of sixpence. Having bought a new skep and hived my little swarm therein, I commenced feeding on all favourable days, and the bees not only wintered all right, but next summer built themselves into a good stock, and the year following I started with swarms in frame-hives, having in the meantime had a copy of 'Modern Bee-keeping' put into my hands, which I carefully read. The hives seen are all of my own make, and although I have seen all shapes and sizes,

there are none that I prefer to my own. I have two 'Wells' hives, but do not care much for them'; indeed, at the present time each of the 'Wells' has only one compartment occupied. In all my bee-keeping I have only had one stock die on my hands, and although I lost one and destroyed another colony, which was too *warm* in temper even for me, you may see by the photo that my apiary has not grown to large dimensions. Going in for honey production in preference to swarms, I find that by keeping ahead of the bees' requirements, so far as giving super-room, it seems with me to overcome all trouble with regard to swarms. My hives are worked wholly for sections, but each season two frames are removed from the brood-chamber of each hive, and the combs broken up, the frames being fitted with full sheets of foundation and replaced, so that each hive has the whole of its combs renewed every five years. I am very fortunately placed for disposing of my honey-crop, as many hundreds of visitors in the summer see the hives from the trains, as this place is on the Scarborough and Whitby branch, and holiday seekers are numerous. I got a shilling each retail for all my sections, and so arranged it that every purchaser gets for his shilling a section weighing a full 16 oz. In order to do this the larger ones are put aside, and when a buyer wants two the extra large ones help along those that are under a full 1 lb. Ten shillings a dozen is my wholesale price, and in the month of April last I had not a shilling's worth of honey left on hand. I find that by dealing fair and having sections perfectly clean, repeat orders are assured. I have a show-case holding six sections (these are glazed and edged with lace-paper) in the window of my dwelling, and one of Mr. Rose's 'Honey for Sale' transparent window bills. These do the only advertising I find necessary. I may also say that nearly all my appliances as well as the hives are home-made. My son, shown in photo, is a great help in the bee work at all times, and my wife assists a good deal in preparing the honey for sale, but not for the life of me can I persuade her to go near the bees, so myself and son have all that job to ourselves.



MR. W. APPLEYARD'S APIARY, STAINTONDALE STATION (N.E.R.), YORKSHIRE.

"Finally, my apiary is located in a capital district for honey; I never have to move the hives for forage. First, we have white clover in plenty, then brambles (blackberries grow here by the ton), then the heather, which is also abundant. I have never kept any record of what any individual hive has yielded, or even of a season's aggregate, having no time for such details, for beyond the bees I have a 30 ft. by 10 ft. greenhouse, which I fill with tomatoes, besides other time-killers. Mr. Cowan's 'Guide Book' is my 'guiding star' in bee-keeping, while the JOURNAL is eagerly looked for, and its useful articles eagerly read every week. I am giving a trial to the new size sections, and hope to report on their success or otherwise later on."

Queries and Replies.

[2704.] *Non-swarming and Non-vicious Bees.*—Will you kindly reply to the following questions:—1. Do you recommend a Carniolan-Italian hybrid queen (Carniolan drone) as likely to produce non-swarming bees? My apiary is in an exposed situation and I do not return home till evening, so that if the bees were determined swarmers I should be bound to lose swarms. 2. Are Italian-English, or *vice versâ*, more vicious than the ordinary bee? 3. Being a beginner, I strongly object to vicious bees, and in view of this, what variety or cross would you recommend me to adopt? 4. What is the advantage of clipping a queen's wings? 5. Would it be advisable to cut out queen-cells every week to stop swarming? 6. If a stock is fed copiously with syrup before supering, would there be any danger of the bees carrying the syrup into the supers? I now possess three frame-hives and three skeps, but want to reduce my stock to two frame-hives and one skep; the latter will be kept for drone-breeding. 7. How can I reduce them to the number mentioned above? I have no spare frame-hive in which to unite two stocks from two other frame-hives, as directed in the "Guide Book." Can I unite them without? I have also one of Meadows' non-swarming hives, but the bees did not enter the non-swarming chamber placed under the hive body, and therefore swarmed. 8. Can you explain why they did not enter? The frames were $1\frac{1}{4}$ in. apart. 9. If I put them at $1\frac{1}{2}$ in., and the queen had no drone-comb, would she be likely to utilise it for drone-rearing? I must apologise for asking so many questions.—Buzz, *Caerleon.*

Reply.—We need hardly say that when so many questions are asked the replies must necessarily be very brief. 1. For the cross you propose in seeking for a non-swarming variety of bee the Carniolan element must be left out, for we found them inveterate swarmers. 2. Hybrid bees are, as a rule, much more vicious than the pure races. The Carniolan, when pure, is a remarkably quiet bee, but, as we have already said, its fault is a propensity to swarm. The pure Italian is also a quiet bee to handle, but directly you cross it with the ordinary or native bee it seems to part with much of its docility, and is usually a bit vicious. It will thus be seen that you are proposing to use a swarming bee (*i.e.*, the Carniolan) to secure a non-swarmer, and a vicious bee (*i.e.*, hybrids) when desiring a quiet one. 3. The Carniolan cannot be improved upon for quietness. 4. Clipping the queen's wing prevents her from accompanying the swarm, as, being unable to fly, she falls to the ground and the bees return to the hive. 5. No. Besides, you would soon tire of that job. 6. Bees should never be syrup-fed when supers are on the hive. 7. It needs no spare hive when uniting two stocks of bees; read the directions for uniting on page 104 of "Guide Book." 8. If we had seen how you worked the non-swarming hive we might explain why it failed. There seems to have been mismanagement somewhere, but we cannot judge from a distance where it comes in. Why did you space the frames in non-swarming chamber $1\frac{1}{4}$ in. instead of the proper distance, viz., $1\frac{1}{2}$ in.? 9. If the frames below were fitted with "starters" only of foundation instead of full sheets, the bees would doubtless build some drone-comb therein. The queen does not regulate drone-breeding; the bees do that.

[2705.] *Bees Transferring Themselves to Frame-Hive.*—I had a swarm of bees on June 7, which I put into a new skep, with the idea of letting them remain in skep for the winter. The bees did well, but the weather being so very hot they clustered on the outside, and this made me fear they might swarm again, which I did not wish them to do, so I got a frame-hive on July 14, and put in six frames, filling the four centre ones with full sheets of foundation, the other two with "starters" only. I then lifted the skep on top of frames and made all comfortable, and they seemed to take to the lower hive nicely, working busily in and out, but on July 27 (I am away all the week) I noticed a bee bring out something, and when they were in at night I found a few unhatched bees fully formed, but it seemed as if the inside of the grub was eaten away. 1. Do you think this was the work of ants?—there are some about the hives. I thought of letting the bees remain for three weeks in the skep, or till all brood has hatched out, and then driving the bees as you recommend. So I ask (2) will the six frames be sufficient to winter the bees on? As this is my first frame-hive, an answer through your much-prized paper will greatly oblige.—J. Bayliss, *Woodstock.*

Reply.—1. The "inside of the grub," as you term it, would not be eaten away by ants or other insects within the hive, though it might have happened while the immature larvæ lay on the ground after being cast out. We, however, rather think that the "grubs" cast out indicate nothing more than the destruction of drone-brood, so common when the honey season begins to fail. 2. Yes, quite sufficient if they contain plenty of food.

[2706.] *Uniting Weak Stocks Placed Wide Apart.*—I send you a sketch plan of my apiary, and I would be very grateful to you if you would explain to me how I may unite Nos. 4 and 19, as they are weak and I wish to get them stronger before the winter. After uniting, would it be well to feed them, though honey is still coming in? All but six of these hives were driven from skeps in April and May, yet up till now they have yielded me already—most of them—ten shallow-frames of honey; the others by the end of the month

will have yielded another ten frames each. Would you consider this satisfactory for a novice?—APIS MELLIFICA, *Bletchley, August* 8.

REPLY.—The two colonies you desire to unite are placed so far apart and with so many stocks of bees between them that it would be impossible to join them together without loss of bees. If they are not weak from disease or some other mischief, we should get a driven lot of bees, with a young queen, to add to each hive. Driven bees are cheap and plentiful just now, and it would be economy in many ways to do this. If the bees are weak from disease, or the combs happen to be wrong in any way, we should destroy the stocks, as not worth the trouble of trying to winter safely.

Echoes from the Hives.

Levisham, near Pickering, August 10.—Heather season just beginning—a full week earlier than last year. Prospects good. Weather grand. Honey coming in very fast to-day.—J. RYMER.

VARIETIES OF BRITISH HEATHS.

The announcement made on page 280 of B.J. for July 11 has brought so many applications for copies of B.J. containing descriptions of British heaths that we deem it best to reprint the illustrations, together with authoritative botanical descriptions of the three kinds of Erica (commons or heaths) usually found on the hills and moorlands of these islands. We place them in their order of merit as honey-producing plants, but bearing in mind that as *E. tetralix* (Fig. 3) grows only on damp bog-land, it cannot be regarded as of any practical value to the bee-keeper. The enlarged blossom of each variety, together with illustrations of the anther, stigma, pollina, &c., at sides of each cut, are introduced to make plainer the structural parts of the flower and its fertilisation by bees.

Fig. 1.—Erica, or Calluna, vulgaris. (Ling.)

1. *Erica, or Calluna, vulgaris* (Ling), Fig. 1.—A low, straggling shrub, seldom growing more than a foot high. Leaves very small and short. Flowers small and of a purplish pink colour, often pale approaching to white. *Erica vulgaris* is the most widely distributed of all the heaths and very abundant.

Fig. 2.—Erica cinerea, or Bell Heather.

2. *Erica cinerea* (Scotch Heath), Fig. 2.—More bushy and fuller than *Erica vulgaris*, leaves finer and more pointed, usually three in a whorl, with clusters of small leaves in their nails. Flowers a reddish purple, in twice terminal racemes. Covering immense tracts of country on the Scotch, Irish, Welsh, and some of the Western English moors.

Fig. 3.—Erica tetralix.

3. *Erica tetralix* (Cross-leaved Heath), Fig. 3.—Generally lower than *E. cinerea*, bushy at base; short, erect flowering bunches, leaves in form shorter and less pointed than in preceding. Flowers rather larger and more pink in colour, forming little terminal clusters or close umbels. Ranges all over Britain, and very common in the West.

By preserving these illustrations, readers will be enabled to distinguish between the several heathers by comparing a sprig of bloom with the cuts. Elevation and soil, however, have apparently much to do with the quality of heather-honey, that from the Scottish Highlands being undoubtedly best.

EXTRAORDINARY BEE STORY.

SWARM ENTERS A HORSE'S STOMACH.

An occurrence which, writes a correspondent, could not be described otherwise than as extraordinary recently took place at the village of Colliston, near Arbroath.

It seems that while Mr. David Cooper, farmer, Gowanbank, was engaged in a field at the back of the village furring-up turnips with a horse and plough, a cast of bees from a neighbouring garden settled on the head of the animal. Strangely enough, the queen of the cast had found its way into the mouth of the horse, and the workers immediately followed it, ultimately finding their way down the throat of the unfortunate animal and into its stomach. The horse was consequently put to the most agonising pains, and wildly scampered hither and thither over the field with the plough at its heels, the crop suffering much damage. In a very short time the animal became exhausted and fell to the ground. Mr. Cooper afforded it temporary relief, and succeded in getting the horse to its feet, and leading it as far as the village, where the poor beast again fell down in great agony. After the lapse of several hours the owner of the horse was successful in getting it to its stable, but in the night it seemed probable that the animal would succumb. Mr. Cooper was severely stung about the head and face by the bees. It may be mentioned that something like a plague prevails in the village at present from the extraordinary number of casts which the very hot weather is bringing about, and many complaints are being made by the inhabitants of the village as to their being unable to enjoy the freedom of their own gardens.—*Dundee Advertiser.*

[We have received quite a bundle of copies of the above *very* "Extraordinary Bee Story" from various readers for insertion in B.B.J., and we only insert it here in the hope that some reader "near Arbroath" will be good enough to send a line by way of letting us know what really did take place. The "story" is as hard to swallow as we fancy the swarm would be to the poor horse, even if it tried to do so, which we, of course, very much doubt.—EDS.]

Bee Shows to Come.

August 15, 16, and 17, at Crystal Palace.—Surrey B.K.A. Annual Exhibition of Bees, Honey, Wax, and Appliances, &c. Twenty-four classes.

August 17, at Ammanford (S. Wales).—Honey show in connection with the Ammanford Flower Show. Liberal prizes.

August 21 and 22, at Shrewsbury.—Annual Show of the Shropshire B.K.A., in connection with the Shropshire Horticultural Society's Great Floral Fête in "The Quarry." Bees, Honey, Hives, and Appliances.

August 21 and 22, at Newcastle-under-Lyme.—Annual Bee and Honey Show of the Staffs. B.K.A. in connection with the Staffordshire Agricultural Society's Show.

August 24, at Barnton, Northwich.—Honey show in connection with the flower show. Honey department—seven local classes and one class (open to all Cheshire) for twelve 1 lb. jars "light" honey. The Cheshire B.K.A. bronze medal goes to winner of first prize in this class. Schedules from the Hon. Sec., Mr. S. Wade, Barnton, Northwich. **Entries close August 17.**

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes for hives and honey.

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey—six 1 lb. sections, six 1 lb. jars and extracted, with prizes of 10s., 5s., and 2s. 6d. in cash. Schedules from Mr. W. H. Jones, Hon. Sec., Montgomery. **Entries close August 22.**

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.; also for Single Jar and Section, with **Free Entry**; also Wax and Appliances. Schedules from James Kerr, Hon. Secretary, Milldamhead, Dumfries. **Entries close August 22.**

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt.)

September 10, at Cartmel, Lancs.—Honey show under the auspices of the Lancs. B.K.A., in connection with the show of the Cartmel Agricultural Society. Three open classes for honey. Schedules from W. Cragg, Cartmel via Carnforth.

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

HEATHER (Wellington), H. WILLIAMS (Ladock, Cornwall).—Refer to page 327 in this issue for varieties of heather.

C. H. HOGBEN.—*Immature Drones Cast Out of Hives.*—There is no cause for alarm; it

merely indicates that the close of the honey season is at hand.

H. WITT.—*Coloured Glasses for Grading Honey.*—See page 319 of last week's issue.

A NOVICE (Steeple Morden).—*Removing Surplus Honey.*—There is little use in giving more sections at this period of the year except in heather districts. We should remove the sections now on without delay, or their contents will be carried below into the brood-nest.

Honey Samples.

J. M. K (Congleton).—Honey is from white clover; very good in colour, flavour, and aroma, but it is rather too thin to win if competition was keen.

A. R. B. (Harrow).—1. See reply to J. M. K. for quality of honey. 2. Bees are Ligurian hybrids. It is quite common to see various degrees of marking in hybrid bees from the same stock.

F. W. P. (Crewe) and J. W. Percival (Walthamstow).—Honey excellent on all points; well worth showing.

H. C. H. (Malvern).—Honey is good in quality, but not unusually dense in consistency. There should be no trouble in extracting it.

E. R. C. (Newton Abbot).—Either sample is good enough for a local show. No. 2 is the better of the two.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

A. P. (Ely).—1. Comb sent contains no disease, but is eaten up with wax-moth (*Galleria cereana*). 2. You will do well to get some expert help in dealing with this bee-pest as suggested. Mr. C. N. White, Master, Union House, St. Neots, Hon. Sec. of the Cambs B.K.A., would, no doubt, if written to, name a suitable man to help you.

A. COLLINS (Lee, S.E.).—Foul brood is just breaking out in both samples of comb sent. Drone-comb, containing drone-brood, is not suitable for diagnosing cases of suspected foul brood.

D. M. (Kilmartin).—There is a slight trace of foul brood in comb; we suspect queen is a drone-breeder.

"WINDMILL" (Redditch).—Comb is affected with foul brood of old standing. No wonder the stock did not do anything. We should destroy it.

T. H. B. (Exeter).—Nothing worse in comb than pollen.

W. BARROW (Leicester).—No disease in comb.

*** We have received so many samples of suspected comb and samples of honey during the past week that it is impossible to report on all in this issue.

We are also reluctantly compelled to hold over reports already in type of several shows, among them the Lancashire B.K.A., Marlow Horticultural Society, Worcester B.K.A., and the Berwickshire B.K.A.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

WANTED, SITUATION on bee and fruit farm. Total abstainer. "E. X. P.," *B.J.* Office. H 48

HEALTHY SWARMS, 4s. and 5s. each. Packing free. ALFRED GOULE, Henley-in-Arden. H 47

WANTED, SKEPS of HONEY in Bulk, 30s. per cwt. DAWKINS, Sutton Coldfield. H 31

FOR SALE, 400 SECTIONS; also 16 Cut Clover and Sainfoin Honey. Samples, 3d. LAW, Beehive, Litlington, Royston, Cambs. H 38

GOOD CLOVER SECTIONS FOR SALE, well-filled and clean, 8s. per doz.; 2nd class, 7s. Also Extracted. GARNETT, Well, Bedale, Yorks. H 49

HONEY WANTED. Exchange new Incubators, Appliances, Wicker Goods. RUSSELL OAKLEY, Christchurch, Hants. H 45

HONEY EXTRACTED, 47s. 6d. per cwt.: on rail, Manea Station. Tins returnable. FRED PEPPER, 19, Market-street, King's Lynn. H 46

HEALTHY DRIVEN BEES, 4s. per lot; put on rail free. W. H. HIGLEY, 15, Mason-street, Kidderminster.

FINE young fertile ENGLISH QUEENS 1s. 6d. and 2s. each, if in perfect Introducing Cages 6d. extra. SPEARMAN, Colesbourne, Cheltenham. H 44

SECTIONS and EXTRACTED FOR SALE. First Quality. Sample, 3d. PULLEN, Ramsbury, Hungerford. H 50

RAYNER EXTRACTOR, with gearing. Used once, as new, 33s. 6d. Three 50s. "Century" Thermal Baths, new, 30s. each. GARNER, Dyke, Bourne. H 52

FINEST quality EXTRACTED CLOVER HONEY FOR SALE. Sample and price, 2d. KNEWSTUBB, Longmarton, Carlisle. H 34

FOR SALE.—Healthy DRIVEN BEES and their QUEEN at 1s. 3d. per lb. box. 1s. extra if not returned. E. GARNER, Broom, Biggleswade, Beds. H 33

CHEAP TO CLEAR, four good bar-framed BEE-HIVES.—4, Charles-road, Smallheath, Birmingham. H 30

35TH SEASON.—FERTILE QUEENS, price 4s. each. PRYOR, Breechwood Green Apiary, Welwyn. H 36

FINE EXTRACTED HONEY, 50s. cwt., tins extra, returnable. Sample, 4d. Rayner Extractor, with gearing, used once, as new, 32s. 6d. J. ALLEN, Dyke, Bourne.

PURE ENGLISH HONEY (2nd quality), 45s. per cwt. Sample, 2d. Cash or deposit. ALBERT COE, Apiary Hall, Ridgewell, near Halstead, Essex. H 42

STRONG Four-frame NUCLEI, with Brood and fertile Queen, 8s. 6d. Strong Stocks in Skeps. 1901 Queens, 11s. 6d. Guaranteed healthy. W. WOODS, Normandy, Guildford. H 41

Prepaid Advertisements (*Continued*).

HONEY.—SECTIONS, beautifully clean, well-filled, at 8s. doz. plain, 9s. doz. glazed. Extracted, 28-lb. tins, 60s. cwt. Tins free and carriage paid.—SOAL, Rochford, Essex. H 43

WANTED, at Michaelmas, COTTAGE, good garden and water, in white clover and heather district. N. Wales preferred. Particulars to W. X. Y., *Bee Journal* Office.

12 BAR-FRAME HIVES, Sandringham pattern. Never been used, FOR SALE, very cheap, to clear. Owner leaving neighbourhood. Apply, OCCUPIER, 22, Kynaston-road, Enfield, N. Middlesex. H 32

HEALTHY DRIVEN BEES in four-lb. lots, price, 1s. 3d. per lb., with young Queen. Boxes returnable. Also young fertile QUEENS, price 1s. 6d. each, post free. R. BROWN, Flora Apiary, Somersham, Hunts. H 35

FINE PROLIFIC Tested, 1901, Fertile QUEENS, 3s. 6d. post free. Bees 1s. 6d. per lb. for 5 lb. lots or over, Queen included. Packages to be returned. Guaranteed healthy and safe arrival. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. H 37

WANTED, first-class SECTIONS or HONEY for grand Langshaws, White Leghorns, Faverolles, Dorkings, or Wyandottes. Or would take Honey Ripeners, Tins. F. GOODRICH, Glebe Farm, Methwold, Norfolk. H 46

WOOD'S SPECIFIC.—Sure preventive of and alleviative for Bee Stings and all Insect Bites, &c. Non-poisonous. Sold in bottles, 1s. 3d., post paid. A certain cure for Udder Clap or Sore Teats in cows. 2s. 4d. post paid. Postal orders to WOOD & CO., Manufacturers, Black Hill, Co. Durham. H 40

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 5s. 6d.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d. (and 2s. condemned). Swarms, Stocks, and Nuclei headed by any variety queen at fair prices. Customer says:—"Friend has hived two nuclei. . . well satisfied." E. WOODHAM, Clavering, Newport, Essex. H 51

DRIVEN lots of BEES with Queens, 3s. Boxes returned. PULLEN, Ramsbury, Hungerford. H 8

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

SPLENDID 1901 HONEY, in 28-lb. tins, 6½d. lb. Tins free. Sample, 2d. Cash or deposit. DUTTON, Terling, Essex. G 64

PURE EXTRACTED light coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

HEALTHY DRIVEN BEES 1s. 3d. per lb. Not less than four lb. lots. Boxes to be returned. E. LONG, Fulbourne, Cambs. H 27

HONEY LABELS, new design. Send stamp for sample. GUEST, Kings Norton, Birmingham. G 97

25TH YEAR.—Small SWARMS with Reliable Queens, 5s. 6d. Package free. Queens, 3s. 9d. delivered. ALSFORD, Expert, Blandford.

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

GENUINE IMPORTED ITALIAN QUEENS.—Purity and safe arrival guaranteed. Post free with Introducing Cage, full instructions for introduction, 6s. F. SLADEN, Ripple Court Apiary, near Dover. H 25

WANTED, 200 QUEEN BEES, dead or alive, virgin or fertile; 200 Queen Cells, sealed or newly hatched. State lowest price for this number or any smaller number. BONNER CHAMBERS, Diptford, South Brent, S. Devon. H 28

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

Prepaid Advertisements (*Continued*).

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

APIARY of 20 STOCKS of BEES, mostly in good Bar-frame Hives, FOR SALE, as it stands, including a liberal assortment of modern Bee-keeping Appliances, together with a lock-up Shed. Roomy COTTAGE, with large Garden, TO LET, near by. Good bee district. W. LOVEDAY, Hatfield Heath, Harlow, Essex.

LACE PAPER for SECTION GLAZING. White, Pink, and Green, 1 in. wide, 100, 7d, 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also something new in LACE BANDS, 2⅞, 3, and 3⅛ in. wide, lace both edges. White, 100, 1s. 3d., 200, 2s. 3d., 300, 3s., 500, 4s 0d.; Pink and Pale Green, 100, 1s. 6d., 200, 2s. 9d., 300, 4s., 500, 5s. 6d.; all post free. Sample of each kind three stamps. W. WOODLEY, Beedon, Newbury.

CLOSE OF SEASON, 1901.

CLEARANCE SALE.—Having a large Stock of the following still on hand, I am offering at greatly reduced prices—

"Cowan" Extractors	50/-	reduced to 42/6
"Raynor" ,, ...	32/6	,, 28/6
"Guinea" ,, ...	22/6	,, 19/-
,, Geared	33/-	,, 26/-
Small Wax Extractors	2/6	,, 2/-
Large Round Float Feeders ...	2/6	,, 1/8
Small ,, ,, ...	1/6	,, 1/-
Bottle Feeders	1/3	,, 10d.
Queen Excluders	9d.	,, 6d.
,, ,, ...	8/- doz.	,, 5/6
,, ,, Long Sheets (96×16)	3/6	,, 2/3
,, ,, ,, ,, (96×32)	6/6	,, 4/3
Standard and Shallow Frames	1/3 doz.	,, 10d.
,, ,, ,, ,,	8/4 100	,, 5/6
Sections	2/- 100	,, 1/8
,, Split Top	2/6 100	,, 1/10
,, ,, ,, ...	20 - 1,000	,, 17/-
Smokers	3/- each	,, 2/3
,, (Meadows')	2 6 ,,	,, 1/8
"W.B.C." Ends	4/- gross	,, 2/9
,, ,, extra wide ...	4/6 ,,	,, 3/-
Tough Wood Dividers	10d. doz.	,, 6d.
,, ,, ,, ...	6/- 100	,, 3/6
Metal Dividers	1/- doz.	,, 8d.
,, ,, ...	7/6 100	,, 5/-
Comb Foundation	2/- lb.	,, 1/9
,, ,, Thin for Sections	2/6 lb.	,, 2/1
Super Clearers	2/- each	,, 1/8
Woiblet Spur Embedders ...	1/-	,, 9d.
Section Racks	2/6	,, 1/9
Shallow-Frame Boxes, complete	3/-	,, 2/2
Wire and Net Veils	2/-	,, 1/6
Black & White ,, ...	1/6	,, 1/-
Uncapping Knives	2/-	,, 1 6
"Record" Bee Hives	10 6	,, 9/9
1 gross Lea's Dovetail ...	19/-	any reasonable offer.
1 ,, ,, Shallow		,, ,,
Honey Ripeners and Strainers	12/6	reduced to 9/6

W. SHEPHERD, Oxton, Tadcaster, Yorks.

DUMFRIESSHIRE & GALLOWAY HORTICULTURAL SOCIETY.

ANNUAL SHOW,

Drill Hall, Dumfries, Friday, August 30th, 1901.

HONEY SECTION.

Six 1-lb. Bottles of } *First Prize*, Silver Cup, value £2.
Liquid Honey. } *Second Prize*, Silver Medal.
Six 1-lb. Sections of } *First Prize*, Gold Medal.
Flower Honey. } *Second Prize*, Silver Medal.
Entry money in each class, One Shilling.
RULES. No restrictions as to the Honey being the Exhibitor's own production.
Screw-Top Bottles. Sections Glazed.

Open to the World.

ROBERT G. MANN, *Secretary*,
"Courier" and "Herald" Offices, DUMFRIES.

Editorial, Notices, &c.

CREATING A HONEY MARKET.

BEE-KEEPERS AND COMING SHOWS.

The honey season of 1901 has already yielded results which not only ensures for it a place among the most abundant of recent years, but bids fair to produce so good a return from the heather that it may turn out one of the best bee-seasons on record. Our well-known contributor, Mr. J. Rymer, of Levisham, Yorks—whose honey crop is almost entirely from the moors—in his "Echo" on page 327 last week says, "Heather season just beginning; a full week earlier than last year. Prospects good; weather grand; honey coming in very fast to-day" (August 10). This was a fortnight ago, and bee-weather has been the rule since, so that the heather-crop in the north promises to surpass that from white clover and other sources elsewhere. This much may therefore be safely said so far as regards the bee-season.

But, along with reports of large yields of excellent honey in many districts and of successful shows everywhere, there comes from some quarters less satisfactory accounts, sent by bee-keepers who have difficulty in finding a market for their produce. And it is to meet this want that we invite attention to the three important exhibitions to be held at the Agricultural Hall, London, during the month of September and the second week of October next.

The first two of the honey shows mentioned are connected with the Annual Exhibition and Market of the "Confectioners and Allied Trades" and of the "Grocery and Allied Trades" respectively. Each show extends over seven successive days, with an interval of one week between them. And at the two exhibitions over a hundred prizes will be competed for, representing about £100 in cash, besides valuable medals, certificates and trade diplomas. But this is by no means all, for we take it to be a most important advantage to the whole industry of bee-keeping that so excellent an opportunity for creating a market for bee-produce should have occurred in a season when honey is so plentiful and good in quality. An opportunity the like of which we venture to say has never before been afforded in the history of the craft.

A glance down the "Shows to Come" column on page 338 will, we think, dispel any doubt as to the truth of this assertion. We have the two shows named in September; then, between October 8 and 12, there is the ever-popular Dairy Show at the Agricultural Hall, and the annual show of the Kent and Sussex B.K.A. at the Crystal Palace on the 10th and 12th of the same month. So that in London alone (including that at the Crystal Palace) four shows will be held at which many thousand samples of high-class home-grown British honey will be seen by visitors probably numbered by hundreds of thousands in all.

Surely, then, this is an opportunity not to be lost sight of by bee-keepers, who have already harvested tons of honey from their bees this year. Only a few days ago we were informed by a bee-keeper (a working man) that he has for disposal 13 cwt. of first-class clover honey for disposal secured by him this season.

In view, therefore, of this plenteousness, we invite all who are seeking a market for their honey to take the Yorkshireman's advice to his friend—with something to sell—"board it,' *i.e.*, give it a chance on the show-bench by filling up the form on page ii. without delay (entries for the first show named close on *August 26*). Bear in mind that a tradesman may easily be secured as a customer for honey which has won a prize at an important show. But, along with all the ordinary chances of interesting people in the honey at the first two shows named above, we believe that several of our best bee-keepers have been invited to occupy stands both at the "Confectioners'" and the "Grocers'" Exhibitions for the sale of honey, and to show not only live bees in observatory hives, but also set up "working exhibits" illustrating modern methods of bee-keeping. This would be done in the presence of visitors by showing how honey is removed by means of the extractor without injuring or handling the combs, and by jarring off, labelling, and preparing honey for market.

If a "working exhibit" of this kind is secured—and we think it will be—

it goes without saying that these various operations will tend to attract visitors in large numbers, and thus arouse the interest in honey and make consumers. Tradesmen who attend the show to pick up hints for pushing their counter trade will also have their interest aroused by seeing it done, and in this way, as we have said, will materially assist in creating a honey market.

OUR THOUSANDTH NUMBER.

To-day marks the issue of the thousandth number of the BRITISH BEE JOURNAL, an event possessing, we think, sufficient general interest for readers to make it worth recording as showing the continuous progress made since No. 1 appeared in May, 1873.

At that time the B.B.J. was a monthly paper published at 10s. 6d. per annum (post free), and it took till 1881 to reach the hundredth number. Since then it has been published fortnightly at 3d., weekly at 2d., and finally weekly at 1d. Every succeeding year has added to its popularity, and to-day No. 1,000 finds its circulation higher than ever, and we trust its continued success assured.

LANCASHIRE B.K.A.

BEE AND HONEY SHOW AT MACCLESFIELD.

The Adlington and District Agricultural Society held its annual show at Macclesfield on August 7. In 1900 a new department for hives, honey, and wax was inaugurated, and owing to the poor season the entries were few, but the Committee continued the department this year, and received a considerably larger number of entries. The quality of the exhibits was, with very few exceptions, excellent, and the competition, especially in the District Class for Extracted Honey, very keen.

The Rev. E. Charley officiated as judge, his awards being as under :—

Complete Frame-Hive.—1st, George Rose, Liverpool; 2nd, Mottram & Turner, Manchester.

Six 1-lb. Sections (open).—1st, W. Woodley, Newbury; 2nd, W. Ratcliffe, Barthomley.

Six 1-lb. Jars Extracted Honey (open).—1st, J. Pennington, Heswall; 2nd, W. Woodley; 3rd, T. H. Hulme, Macclesfield.

Beeswax (open).—1st, T. H. Hulme; 2nd, J. Berry, Llanrwst; 3rd, W. R. West, Northenden.

Six 1-lb. Sections (district).—1st, Septimus Wright, Wilmslow; 3rd, T. H. Hulme.

Six 1-lb. Jars Extracted Honey (district).—1st, G. Latchford, Hurdsfield; 2nd, Stanley Wright, Macclesfield; 3rd, T. H. Hulme.

Beeswax (district).—1st, T. H. Hulme; 2nd, Septimus Wright; 3rd, J. Turner.—(*Communicated.*)

WORCESTERSHIRE B.K.A.

ANNUAL SHOW.

The annual show of bees, appliances, and products was held on August 8, at Madresfield Court, the seat of Earl Beauchamp. The exhibits were much more numerous than usual, and of capital quality for the district. The beautiful grounds of Madresfield were thrown open for the day, and, the weather being fine, there was a very large attendance of visitors. Mr. T. I. Weston judged the exhibits, and made the following awards :—

Best Stock of Bees.—1st, A. R. Moreton, Leigh; 2nd, J. P. Phillips, Spetchley.

Complete Frame-Hive.—1st and 2nd, E. H. Taylor, Welwyn, Herts.

Twelve 1-lb. Sections.—1st, C. H. Haynes, Hanley Castle; 2nd, A. R. Moreton; 3rd, E. A. Millward, Chaddesley Corbett; h.c., Miss M. Vaughan, Whittington, and Miss Willan, Hanley Castle.

Six 1-lb. Sections.—1st, C. H. Haynes; 2nd, Mrs. Crease, Stourbridge; 3rd, E. A. Millward; h.c., W. J. Harwood, Whitbourne, and Miss Willan.

Twelve 1-lb. Jars Extracted Honey.—1st, E. A. Millward; 2nd, A. R. Moreton; 3rd, Dr. Fitch, Chaddesley Corbett.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st, A. R. Moreton; 2nd, E. Griffin, Upton-on-Severn; 3rd, C. H. Haynes; h.c., E. A. Millward.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, W. E. Hyde, Ledbury; 2nd, Miss Johnson, Malvern; 3rd, C. H. Haynes; h.c., W. J. Harwood.

Shallow-Frame of Comb-Honey.—1st, C. H. Haynes; 2nd, E. A. Millward; 3rd, W. H. Higley, Kidderminster; h.c., Miss Willan.

Beeswax.—1st, E. A. Millward; 2nd, A. R. Moreton.—(*Communicated.*)

Mr. Weston also held an examination of candidates for third-class experts' certificates at Spetchley on the following day.

MARLOW HORTICULTURAL SOCIETY.

BEE AND HONEY SHOW AT MARLOW.

The seventh annual show of the above Society was held on the picturesque ground of the local cricket club, close by the Thames, on August 7 and 8, in lovely weather, the honey and appliance section being under the auspices of the Berks B.K.A. The several classes were fairly well filled, and of excellent quality. Messrs. W. S. Darby and W. Carter, of Windsor, were judges, and made the following awards :—

Complete Frame-Hive.—1st, Sawyer Bros., Marlow.

Frame-Hive Suitable for Cottagers' Use.—1st, Sawyer Bros.

Outfit for a Beginner.—1st, Sawyer Bros.

Observatory Hive, with Bees and Queen.—1st, G. Sawyer.

Twelve 1-lb. Sections (open).—1st, W.

Woodley, Beedon, Newbury; 2nd, W. Maskell; 3rd, J. Greatrix.

Twelve 1-lb. Jars Extracted Honey.—1st, W. Woodley; 2nd, W. Maskell; 3rd, E. S. Keep.

Six 1-lb. Sections.—1st, W. Woodley; 2nd, J. Janes; 3rd, F. Barber.

Six 1-lb. Jars Extracted Honey.—1st, W. Woodley; 2nd, J. Janes; 3rd, E. S. Keep.

Honey Trophy.—1st, G. Sawyer.

Six 1-lb. Sections.—1st, J. Janes; 2nd, W. Maskell; v.h.c., J. Greatrix.

Six 1-lb. Jars Extracted Honey.—1st, J. Janes; 2nd, E. S. Keep; v.h.c., W. Maskell.

Beeswax in Small Cakes.—1st, Mrs. G. Sawyer.—(*Communicated.*)

BERWICKSHIRE B.K.A.

The annual honey show of the Berwickshire Bee-keepers' Association was held on August 1 on the Agricultural Showground, Mains' Gate Park, within the policies of Duns Castle, by kind permission of the lord of the manor. The season having been an exceptionally favourable one for the production of flower honey, the exhibition was fully up to the standard of former years, both comb and extracted honey being well shown. Among the large number of exhibits of comb honey it would be almost invidious to single out individual wins. All were agreed that liquid honey had rarely, if ever, been a stronger show. The judging was done by Mr. John Brown, Kelso, who made the following awards :—

Six 1-lb. Sections.—1st, Jas. Blackie, Longformacus; 2nd, James Shiel, Abbey St. Bathans; 3rd, G. Davidson, Simprim.

Twelve 1-lb. Sections.—1st, John Turnbull, Crumrig; 2nd, James Blackie.

Six 1-lb. Jars Extracted Honey.—1st, Geo. Davidson; 2nd, J. Blackie; 3rd, J. Moffat, Stockbridge.

Single Super (any size).—1st, R. Greig; 2nd, J. Blackie; 3rd, T. Henderson, Gavinton.

Beeswax (not less than 2 lb.).—Geo. Davidson; 2nd, R. Aikman; 3rd, R. Cockburn, Howburn.

Display of Honey (not under 20 lb.).—1st, A. Falconer, Duns; 2nd, J. Turnbull; 3rd, R. Greig.

Display of Honey (not over 50 lb.).—1st, Geo. Davidson; 2nd, J. Mocat; 3rd, R. Greig.

Four 2-lb. Sections, four 1-lb. Sections, and four 1-lb. Jars Extracted Honey.—1st, Geo. Davidson; 2nd, J. Moffat; 3rd, R. Greig.

12-lb. Honey in Sections (any size).—1st, R. Greig; 2nd, G. Davidson; 3rd, W. Laidlaw, Edington.

Twelve 1-lb. Jars Extracted Honey.—1st, G. Davidson; 2nd, A. Falconer; 3rd, R. Cockburn.

Two 1-lb. Sections and two 1-lb. Jars Extracted Honey.—1st, A. Falconer; 2nd, R. Cockburn; 3rd, W. Laidlaw.

Five 1-lb. Jars Extracted Honey.—1st, A. Falconer; 2nd, R. Cockburn.

Three 1-lb. Sections.—1st, A. Falconer; 2nd, D. Leitch, Greenlaw; 3rd, R. Cockburn.

Six lb. Comb Honey in Sections (not under 10 lb.).—1st, R. Greig.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4468.] As we "Southerners" have now finished our harvest for 1901, our interest in the weather subsides somewhat. We must, of course, except those fortunate ones who are enjoying or planning a holiday. These are naturally still keen on the probable duration of the warm, brilliant sunshine so enjoyable to all, and which our friends the farmers, along with us bee-keepers, are finding so opportune in garnering the honey and corn harvest respectively. With two large apiaries to manage, the task of clearing hives, examining stocks, and introducing queens where required is no light one, especially as orders come by every post containing inquiries for bees and queens or for honey. The much-needed rains of a fortnight ago have proved the salvation, or, I might say, a resurrection to the young clover crop. I have walked over many fields where the spring corn has been cut, and I notice that the young grass (1901 spring sown) is a very satisfactory crop. It has still fully two months in which it will grow and establish itself before winter. The aftermath of sainfoin has not thrown a large lot of blossom owing to the drought, but every stalk on which a bloom has been is covered with seed, showing the utility of the bee to the farmer. I do not remember seeing so few humble-bees about for several years as this year. Is it the larger number of rooks in the neighbourhood who may eat the young larvæ?

Wasps are not such a plague as in some seasons, but we have enough and to spare. Bottles of wine-lees and syrup are alluring and help in destroying a good number. These traps one sees hanging at the doors of cottagers, so that every man's hand is against the wasps, and yet they thrive. I quite agree with Mr. Reid's letter on page 313, that the diseased wasps' nest may be a distributor of foul brood to other insects such as bees. The disease may not be the exact *Bacillus alvei*, but when we consider that the wasp is a scavenger ready

to partake of a putrid carcass, we may not wonder at the brood fed with these delicate morsels becoming diseased. I hope Mr. Brice will examine the diseased wasp-brood and see if he can isolate the bacteria referred to.

There is, however, another side to the question; possibly the wasps were infected by pilfering from a diseased hive. But even then the fact that they "rob" so persistently shows they may carry infection from diseased bees to a healthy apiary anywhere. Another thing, however, in favour of the wasp is that it does not roam far from home for food. One village grocery may be pestered with wasps, and the next, a mile or two away, may have only an occasional wasp all through the season. In this matter I speak of that I know.

Foul Brood in Skeps.—This subject may be taken up with advantage to the craft by bee-keepers' associations for the advancement of bee-keeping and the helping of cottage bee-keepers. We must not forget that prior to the introduction of the frame-hive very few instances of *bonâ-fide* disease were known among bees. In my opinion the chief reason for this immunity was the yearly "holocaust" of the "sulphur-pit." The new swarms were those generally selected to keep for the next season's work, and this continual renewing of the brood-combs would no doubt be an important factor in the continued healthy condition of the bees. Then the wax was used for commercial purposes, and if it had any taint of disease, it passed entirely out of reach of doing harm. But under the present system our combs are old, tough, black with age, and when stocks die out what becomes of the combs? Are not some sold to or sent to the foundation maker to be remade into foundation? True it is that Mr. J. Howard guarantees to sterilise all wax before making it up, but all do not do this. With regard to work among cottagers, I contend that our bee associations should endeavour to help cottagers in every tainted district by *giving* new straw skeps for all swarms intended to stand the winter, and insisting that every old hive after taking-up time should be scrubbed out with a good disinfectant. Also warn bee-keepers against putting the hives out, after removing the honey, for the bees to clean up. These and similar measures would, I believe, in a few years stamp out the disease.—W. Woodley, *Beedon, Newbury.*

ENEMIES OF BEES IN SOUTH AFRICA.

[4469.] Unlike England, we have no tits or toads to catch the bees, but we have other enemies of a most destructive kind. One is a small fly called the "bee-pirate" or bee-robber. This is the most formidable enemy of bees that I have ever seen. In watching the hives some time after my arrival here I noticed this fly hovering about the entrances, and so quick were its movements, I could not tell at first whether it was the bee catching the fly or *vice versa*. This fly will not touch the bee on the floor-board, although I have seen them alight close to catch the bee on the wing, but so quick is its action that the victim is seized and carried off in a moment! I have many times ran after the "pirates," but never could I locate them or find where they deposit their victim, nor have I ever seen them except in the vicinity of the hive; sometimes I have knocked down some of them just as the captured bee was being carried off, and I find the latter were nearly dead. I thought that the grip of the fly had either killed or paralysed them, as I have never been able to get the bees to sting me when caught, but you will see by the enclosed letter from the Government entomologist, that in his opinion the fly stings the bee to death. They make their appearance in the beginning of summer and stay about three months; you will notice some of the smaller flies (enclosed) are darker than the larger ones, those I think are the younger insects. You will also notice that they are much smaller than the bee, and one would scarcely credit that such a small fly could carry away a bee so swiftly. They are very tenacious of life and will run readily off with a pin stuck through the body. I have only been able to catch them by striking them when on the ground with a flat piece of board. If knocked down with your hat they will at once rise again. It is not too much to say, I should judge, they will carry away thousands of bees in a day where there is an apiary of a dozen hives; in fact, when the "pirates" appear about 11 a.m. the work of the hives is simply stopped, and on a beautiful summer day, when the bees should be out in their thousands, you would see all work suddenly stopped, and not a bee on the wing for several hours in the middle of the day. The "pirate fly" leaves off its destructive operations about 3 p.m., and then the bees start work again. Although not of a vindictive nature myself, I had no compunctions in killing these murdering little pests whenever I could, but I found them more than a match for me. Perhaps our friend Mr. Sladen would be able to tell us something about this bee-pest? I noticed in the Journal that Mr. Wells, of Queenstown, South Africa, sent you an insect from this country which is something like the *Braula coca* at home, so I need not say anything about it. I enclose a bird's skin (with plumage) which resembles the blackbird at home, in colour only, it has no song, and is called by the Dutch "baee funger" (in English, "bee-eater"). This bird also catches the bees when on the wing, away from their hives. I have often seen them make a dart after a bee in the air, snap it up, then fly to a tree and eat it. I have shot most of these birds about our place, and thus reduced the mischief. Then we have the wax-moth, the larvæ of which not only eat the combs, but burrow right through the frames. How

ever, as some one from Africa sent home a description of its ravages for the B.B.J. some time ago, I need not write more about it. Of other bee enemies there is a small ant very much like the ant at home, but these are not very troublesome. The large red ant exists in some parts of South Africa, but I have not seen him here. I found it at Sundays River, when in that locality, and it not only cleared all the honey, but drove the bees out of the hives; but there are none about this part. These are all the enemies of bees that I have come across since I landed in South Africa four years ago. The only enemy of the bee we have real cause to fear where I am now located is the "bee pirate"; the others can be overcome, but we must try and find out a way to exterminate so determined a foe to successful bee-keeping, which up to now I have entirely failed to do. —J. MARTIN, *Walmer, Port Elizabeth, South Africa, July* 6, 1901.

[In compliance with Mr. Martin's request, we forwarded a "proof" of the above, along with specimens, to Mr. Sladen, whose esteemed reply is appended.—EDS.]

"I received your box containing the interesting specimens and nest of the 'bee-pirate.' I am 'relaxing' the specimens with a view to making a thorough examination of them, and I will return the proof with a few lines of footnote in time for insertion next week.—F.L.S."

SOME ESSEX NOTES.

HELPING THE SKEPPIST.

[4470.] "Mornin', mister. How've the bees done?" "A small crop, but very good," I replied. "I burnt two the night 'afore last," the inquirer after my bees went on to say, "an' we got 7 lb. from one and 8 lb. from 'tother." After lecturing my friend and querist on the wrong done to both himself and his bees by continuing to keep bees on ancient and altogether out-of-date lines, he said, "Well, we got some more to 'take.' An' if you'll come an' drive one to-night you can hev the bees for yer trouble." "I am not feeling at all well," I answered, "and I don't think I can walk to your place to-day." "Well," he said, "I'll give you to-night and to-morrer night, and you can 'do' (drive) one just to let's see yer actions."

Now, my visitor—by name Stephen—like the first bearer of this name, seems an all-round good sort, and a fairly good carpenter into the bargain, just such a one as could make substantial bar-frame hives, and keep bees with pleasure, though the profits might vary with varying seasons. But, to use his own words, Stephen said, "We jes' keep 'em in the old way—jest as mother use ter do."

Arriving at our friend's cottage a little late in the evening of the following day I was greeted as follows:—"I'de 'bout gin 'yer up." Then walking down the garden he pointed out the pit where he had used brimstone to destroy two stocks of bees a few days before. I had already noticed the brimstone-pit which to the eye of a modern bee-keeper is almost like looking on a gallows with the "brimstone torch" sticking up above the earth and waiting for the next "condemned" lot.

Proceeding to drive the bees, I found them a really good lot with quite 15 lb. of honey stored, and I think I drove every bee from the skep. When four-fifths of the bees had run into the empty skep the queen was caught as she passed upwards; the first queen-bee that Stephen and his good wife had ever seen. An opportunity was here given me to show my friend that the assertion often made that the bees follow the queen has no foundation in fact.

"Well," said Stephen, the expression on his face showing that he was evidently well pleased with what he saw, "you've made a cleaner job on it than I should a burnin' em."

"It shows as you've read about 'um, don't it?" Stephen inquired.

"Well, yes," I replied, but added, "Reading, to be helpful, must be put into practice."

Turning to his wife, Stephen remarked: "Yer see, missus, they wants understandin', like everything else;" adding, "I could no more do what you've done nor my old donkey here."

Having finished my work, and having had to decline a glass of "home-made" with thanks, I endeavoured to show Stephen that even if he must remain a skeppist he might secure much better honey by supering his skeps. Some of his skeps, as I pointed out, have a hole in the crown, and I promised to present him with a piece of queen-excluder. Before leaving my friend he mentioned that "We let a man drive some once, and he driv 'um all over the place, and made the honey taste so of smoke." He said no more, but here evidently was the cause of many useful lots of bees being consigned to the brimstone pit rather than see them roughly treated and the honey unnecessarily flavoured with smoke. Stephen and his family, and his mother before him, have kept bees in the same ancient way, and though our friend has seen three-score years, and I daresay has never trusted himself behind a railway engine, or anything else than his donkey (that is quite incapable of anything above six miles an hour), I left him hoping and quite believing that he will realise that it is never too late to mend.

My reason for giving this detailed account of a small transaction is that for those who would help the skeppist to help himself there is a moral in it.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

BEES AND HONEY ABROAD.

HONEY ALL THE YEAR ROUND.

[4471.] I have been very much interested in several articles in the BEE JOURNAL lately

about bees in different parts of the world. There is one thing I would like to ask through your columns. I was reading a paper on bees, illustrated by dissolving views, at a Wesley Guild meeting last winter. When dealing with the storing of honey and its being sealed over, a gentleman in the audience rose and asked if it was not a fact that in the West Indies bees had become so accustomed to get honey all the year round that they had ceased to store any, but depended upon gathering it as they wanted it? I naturally said that it was against their nature not to store and seal honey, and I could not accept it as being a fact. The gentleman, however, said, "It was so, and he had been there and I had not."

Now, although I held to my opinion and would not give in, some of the audience accepted his statement. I would therefore like to hear something on the point from a practical bee-keeper who has lived there, and I know there are many such among B.B.J. readers.

The honey season here has not been very good this year as far as quantity goes, but all the honey seems to be of a very good quality and good colour. Swarms also have not been very plentiful, although the hives have been crowded with bees. But there is an instance near here that I know of where three swarms issued from a hole in the wall under the roof of a house within a week, all three being secured, and are doing well. The bees had been in the wall for several years, but swarms had never been secured before.

I may say that in this part there are a great quantity of bees in roofs of houses, chimneys, and hollow trees, and such like places.—A. GODSLANDS *Bovey Tracey, Devon.*

[We are very pleased to hear of your not "giving in," because the gentleman—though meaning well no doubt—is quite wrong as to bees refusing to store honey under the conditions named. We do not believe there is a place in the world where bees act as stated. It is in the very nature of bees to perform the work allotted to them in promoting the fertilisation of the fruits and flowers of the earth, and that work they will get through if the sun shines.—EDS.]

BEES IN THE CHANNEL ISLANDS.

[4472.] Following on my recent "Echoes" from this part of our islands, a short account of my results in bee-keeping may possess interest, so with your permission I will detail the treatment of an "observatory skep." On June 10 I placed on this hive two bell-glasses fitted with foundation. The bees took possession at once. On the 20th I put on another bell-glass, similarly fitted, with the same results. On the 24th I noted bees were "hanging out," so I placed the skep on top of frame-hive (ten frames), made all snug, and the following day found every bee fully at work with thousands in the bell-glasses. On July 6 bees were sealing over the honey in bell-glasses and also in skep below. Ten days later I removed No. 1 bell-glass, a perfect picture of good workmanship. On August 5 I removed the two remaining glasses, the combs being perfectly sealed and filled. On August 7 I took off the skep from top of frame-hive and extracted from the skep 38 lb. 14 oz. of ripe honey. The bell-glasses I reserve for "showing," the rest for use and sale.

I have already disposed of my surplus at 1s. per lb., all of which was bespoke prior to extracting. It will be seen by the foregoing that the skep was six weeks and two days on top of bar-frame hive, and was very light when placed on. Now the bees have fully established themselves and stored their house for the winter. The size of observatory skep is 15 in. diameter, 9 in. deep, flat top. I consider this a record weight from so small a skep. Perhaps other friends may have obtained more. Hoping they have, and with best wishes to all.—WILLIAM W. KAY, *St. Brelades, Jersey, August* 17.

BIRDS AND BEES.

THE RED-BACKED SHRIKE OR BUTCHER-BIRD.

[4473.] Referring to the mention of this bird as a bee-killer on page 303 of B.B.J. for August 1, I should like to say a word about the "butcher-bird" and its habit of killing bees. Last week I noticed one of these birds on my garden fence watching the hive entrances, and whenever a bee came out he made a dart, and, snapping the bee up, brought it back to the fence, and as it seemed to me deliberately picked the sting out before swallowing it. The bird was so intent on the bees that it took no notice of me and I shot it, afterwards showing it to some friends, who rather doubted its propensity for bee-catching. In order, therefore, to be quite sure, I made a post-mortem and found quite a number of bees. I did not trouble to count them, thinking it would be of no interest to any other bee-keepers.—F. KNIGHT, *Warnham, Sussex.*

BEE-KEEPING NEAR LONDON.

[4474]. I am pleased to add another report of bee-keeping in the suburbs. It is, as Mr. Sole says (4460, page 315), rare for us to get a report in B.B.J. from so near London.

I am almost an amateur, as this is my second year of bee-keeping. I am about six miles from Charing Cross. Last year I started with one hive, and now have five. I have taken 15 lb. of honey from my old stock, and expect to take a similar lot during the present month. I intend, if possible, to make a better start in the coming spring, when I hope to have five strong stocks to start with. I do not know a single bee-keeper in this neighbour-

hood, and as I am anxious to gain experience, I should be very pleased to hear from any brother bee-keeper near here. I may mention that in my young days, when a boy, I used to help my father dig a hole and destroy our bees to obtain the honey.—A. WOOD, *Park-road, Crouch End, N.*

Queries and Replies.

[2707.] *Drone-breeding Queen.*—I shall be glad if you will kindly give me, in an early issue of the BEE JOURNAL, your opinion concerning the following case:—I am sending a piece of comb. Its appearance mostly resembles chilled brood, but the slightly indented cappings and perforations lead me to wonder whether it may be a case of foul brood which is, I am told, prevalent in this neighbourhood. Though I have been interested in bee-keeping during the past four or five years, hitherto I have seen nothing of foul brood. The bees were transferred in June from a skep which I bought from a gentleman in Norfolk. I used no old comb, but full sheets and half-sheets of "Weed" foundation. The queen was not particularly prolific, and when I returned from my holidays on July 16 I examined the hive, and found it destitute of eggs or young larvæ. There was a cell from which a queen had lately emerged. About a fortnight later I found a small batch of eggs, and I have not disturbed the brood-nest again until to-day. I have noticed for several days past that the bees have been casting out grubs, but this morning I intercepted one, and found it to be that of a worker. An examination of the brood-nest revealed the fact that all the central combs were in a condition similar to the specimen I send. The colony is in a "W.B.C." hive, with a fast bottom, and for the life of me I cannot understand how the brood could have been chilled, seeing that the bees have been working in a rack of shallow frames. During the past two or three weeks the bees have been loitering about the alighting board, and have not shown their wonted energy on days when honey is probably obtainable. Had there been no suspicion of foul brood here I should not have troubled you, for I should have pronounced it a case of foul brood. I have done no feeding whatever. The present queen is evidently laying well.—CHAS. H. HEAP, *Rickmansworth, August* 16.

REPLY.—There is no disease in comb sent. It contains only drone brood, some cells capped over, others partly capped, the white heads of the pupæ being visible, as often happens when bees have been *overdosed* with disinfectants. From above details it seems certain that the original queen of the stock in skep has gone, and that a successor has been raised by the bees. But as comb sent contains drone brood only we fear the young queen has not mated. You say she is now "laying well." If her progeny are worker bees, all will be right; if drones only, she is worthless. Make this point clear by examining brood and let us know; also say a word as to "overdosing"; we will then advise you further.

[2708.] *Removing Surplus Honey from Skeps.*—I caught a swarm of bees about the last week in June. I hived them in a flat-topped skep with a small dome-shaped skep fixed on top as a super. Could I take the small on the top away for the winter and drive the bees into the lower skep for greater warmth, and stop them from entering the top hive at all? 2. Will the stock require feeding for the winter? I intend getting the bees into a modern frame-hive in the spring if I can carry them safely through the winter.—H. J. POPE, *Bristol.*

REPLY.—1. If the "super" contains honey only—no brood—it will be a simple task to remove it and return the bees to the lower skep after driving. 2. If the lower hive weighs less than 20 to 25 lb. when put up for winter, it will need feeding up to that weight.

[2709.] *Honey from Deadly Nightshade.*—Can you inform us whether honey collected from the deadly nightshade (*Akopa belladonna*) is poisonous to human beings? On August 5 I noticed hive-bees at work on the flowers of this plant, but whether they were collecting honey as well as the pollen with which they were covered I could not tell. It is well known that the rabbits in the neighbourhood feed on the leaves of the deadly nightshade without ill effects to themselves, although I am told the rabbits which have so dined make a dangerous dinner for human beings afterwards.—H. C. W., *Old Colwick, Notts.*

REPLY.—No alarm need be felt with regard to honey from deadly nightshade. The nectar gathered from that plant is so small as to be perfectly innocuous to human beings, and at the worst it may, like other poisons, be useful medicinally. Anyway, no one need fear its effects in this country.

[2710.] *Working the "Wells" Hive for Comb-Honey.*—1. Could you let me know how a "Wells" hive is worked for the production of comb-honey? 2. What is the partition between the two stocks like? Would perforated zinc do? 3. What other differences in structure (apart from size) are essential in a "Wells" hive? 4. If the partition were replaced by a dummy, would the two stocks live peaceably with entrances so near each other? 5. How would the following queens usually be placed in order of merit—Cyprian, Carniolan, Italian, all hybrids, and the ordinary British queen with a strain of Italian in it? —A. ROBERTSON, *Benview, Dumbarton.*

REPLY.—1. We know of no difference in working the "Wells" from an ordinary hive, save that in the "Wells" plan the two lots of bees work in a super common to both. 2 and 3. If interested in the "Wells system," you should invest six stamps in obtaining Mr.

Wells' pamphlet, giving his own methods. Perforated zinc will not answer as a Wells dummy. 4. Yes. 5. We prefer the Italian-British hybrid. The others are simply matters of personal preference, and ours is for a good strain of the native bee.

Bee Shows to Come.

August 24, at Barnton, Northwich.—Honey show in connection with the flower show. Honey department—seven local classes.

August 27 and 28, at Solihull.—Warwickshire B.K.A. Show of Honey, &c., in conjunction with that of the Warwickshire Agricultural Society. Schedules from Jas. Noble Bower, hon. sec., Warwicks. B.K.A., Knowle.

August 28, at Chester.—Annual Show of the Cheshire B.K.A., in connection with the Cheshire Agricultural Society. Ten classes for hives and honey.

Thursday, August 29, at Montgomery.—Montgomery and District Horticultural Society's Show. Two open Classes for Honey.

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. Eleven classes and liberal prizes for comb and extracted honey and beeswax. **Open to all British Bee-keepers. Entries close August 26.** (See large advt. on page v.)

September 10, at Cartmel, Lancs.—Honey show under the auspices of the Lancs. B.K.A., in connection with the show of the Cartmel Agricultural Society. Three open classes for honey. Schedules from W. Cragg, Cartmel via Carnforth.

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

C. Styles (Newport).—*Points for Judging Extracted Honey.*—Briefly stated, the points are:—(1) *Colour* (combined with brightness and clearness); (2) *consistency* (or specific gravity); (3) *aroma;* (4) *flavour;* (5) "*get-up*" (*i.e.*, uniformity in colour and attractive appearance for market). On question of colour (1) judges vary a little, but not often. Pale golden colour is considered best. (2) Thin, unripe honey is a bad fault; we like the sample to be thick or fully ripe. (3) This must be fragrant, not offensive in any way. (4) This is the crucial point of the whole, and though a competent judge rarely fails to notice the "best" when a high-class sample comes before him, it is not easy to define. Finally, the "get up" must always be carefully attended to. A dozen jars uneven in colour and staged in jars not uniform in size or lacking the bright, clean, "toothsomeness," so to speak, that makes the exhibit pleasing to the eye is always offensive to a keen judge, and should never be overlooked. For coloured glasses used in grading honey *vide* B.J. of August 8 (page 319).

Novice (Market Harboro').—*Carbon Bi-Sulphide for Destroying Bees in Trees.*—1. We have no doubt as to the efficacy of carbon bi-sulphide for destroying bees if used as directed in Mr. Reid's letter on page 313 of B.J. for August 8. But when you ask if so deadly a poison can be used with no detriment to honey or combs we should say use a simpler remedy for destroying the bees. Sulphur or chloroform would be safer and better.

A. Z. (Bristol).—*Using Honey from Diseased Hives as Bee-Food.*—It has been proved that the spores of foul brood will germinate after boiling for about two hours, though two and a half hours destroyed their vitality. On the other hand, if the stock from which the honey was taken is only slightly affected, and has not reached the spore stage, boiling for a few minutes will entirely remove danger.

Ebor (Dunham Valley).—*Mandrake.*—Although bees visit the bloom of mandrake, we do not think it possesses any real value as a honey produce blossom.

F. G. Short (Kingsbridge).—*Foul Brood Legislation.*—A glance over the proceedings in Parliament will go far to prove the futility of moving again in this matter just now; consequently, bee-keepers will have to "bide their time," we fear—at least for the present.

Jas. Hiam.—The circumstances mentioned, and your position as chairman of the local bee club, make it desirable to have a reliable opinion on the question of foul brood in the district, and as the sample of comb sent is unsuitable for the purpose of diagnosis, we should like a better one, *i.e.*, more characteristic of the general condition of the stocks suspected. Cut out a piece of comb 3 in. or 4 in. square (with a cell or two that has been sealed over for some time) containing sealed and unsealed larvæ, and *do not probe the cells* at all, leave that to us.

We will then go carefully into it with the microscope. There are very slight signs of disease in your sample, but when we are supposed to be dealing with a whole district, this evidence is not strong enough to meet the case.

R. Z. SHARP (Formby).—The queen-bee sent has been fertilised.

THOS. HOOD (Pickering).—*Insect Nomenclature.*—The insect sent is a specimen of fly which has no connection whatever with the honey bee.

Honey Samples.

W. WRIGHT (Hull).—1. Sample is almost wholly from white clover. 2. It is quite suitable for the show-bench, but as granulation has begun the honey looks cloudy and dull. It may be "cleared" again by immersing the jars in water and heating the latter till rather hot for the bare hand when inserted. 3. It needs no "straining," nothing but warming till the honey is clear and bright.

A BEGINNER (North Wales).—Sample is good on all points and very suitable for exhibition.

H. H. K. (Ambleside).—Sample sent looks and tastes like honey-dew.

W. H. (Ayrshire).—Sample of honey is excellent on all points.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

"PRO BONO PUBLICO" and W. ODDY.—Foulbrood is in both cases developing rapidly in comb sent.

A. R. M. (Worcester).—Comb is affected with foul-brood.

GREEN (Larkhall).—No comb enclosed with letter, and none since received that we can identify with yourself.

L. H. A. (Sheffield).—There is no disease in comb sent. It is, however, apparent that queen is a drone-breeder, your sample containing only drone-brood in worker cells.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 20 lots DRIVEN BEES, 3s. per lot, or 9d. per lb., with Queen; boxes returnable. J. BARNES, Burwell, Cambs. H 79

STRONG STOCKS in skeps, 1901 fertile Queen, guaranteed healthy, 11s. 6d. WOODS, Normandy, Guildford. H 74

PURE NEW ENGLISH HONEY (second quality), 5d. lb.; in 56-lb. tins. Tins free. HARDY, Oak House, Great Veldham, Halstead, Essex. H 59

Prepaid Advertisements (*Continued*).

HONEYSLICE SECTION WRAPPERS, for Show and Shop, 2s. per 100. Of dealers, or BELL, Beverley House, East Barnet. H 58

WORKING FOREMAN DISENGAGED. Experienced, trustworthy. Bee-farming a speciality. Address, "Z.," *B. J.* Office. H 56

FEW LOTS DRIVEN BEES to clear, guaranteed healthy, 3s. 6d. on rail, including packing. HIGLEY, Expert, Timberhonger, Bromsgrove. H 64

SPLENDID HONEY FOR SALE, 6d. per lb., tins and package free; sample 2 stamps. GEORGE THOMPSON, Helpringham, Heckington. H 73

DRIVEN BEES with Queen, 3s. per lot; two lots, 5s. 6d. Orders booked in rotation for September. BOX free. MARTIN, Bee-keeper, Wokingham, Berks. H 67

OFFERS WANTED for 100 doz. SECTIONS Cambridge Honey, any quantity SEAMARK, Willingham, Cambs. H 66

WANTED, GENUINE ENGLISH HONEY. Send lowest price for large quantities. SYMONS, Wyndham Arcade, Cardiff. H 65

WANTED, OFFERS, Bee-hives and Appliances for 26 lots Driven Bees, 1901 Queens, or Sell, CADMAN, Codsall Wood, Wolverhampton. H 70

HONEY WANTED, also FRUIT. Send samples and price to WEISE BROTHERS, 11, Selby-road, Anerley. H 69

PATENTS Procured and DESIGNS Registered for Bee-keeping Appliances. F. M. ROGERS, 21 Finsbury-pavement, London, E.C. H 75

TESTED ENGLISH QUEENS, bred from selected strain, 5s. each, in introducing cage. W. WOODLEY, Beedon, Newbury.

25TH YEAR.—Choice 1901 QUEENS, in introducing cages, 3s. 9d., delivered; with Swarm for building up, 5s. 6d. Package free. ALSFORD, Expert, Blandford. H 63

SEVEN BAR-FRAME HIVES, four Skeps, Extractors and sundries, Bees healthy, good condition, £10 or offers. HERROD, Trentside Apiary, Sutton-on-Trent, Newark. H 62

SEVEN strong STOCKS of BEES in "W.B.C." Hives, complete; one Stock in Skep, and several empty Hives; bargain, £8 the lot; removing. JONES, Woodvale, Ainsdale, Lancs. H 60

TO SELL your SECTIONS try the NEW FOLDING CASES; assorted colours; gold lettering; very effective; 6s. 6d. 100. Sample free. HEWETT'S, Laburnum Apiary, Alton, Hants. H 71

THREE strong and healthy LOTS of BEES FOR SALE, Carnio-Italians, in Standard Bar-frame Hives, 15s. each. D. COLE, Moor Cottages, London-road, Colnbrook, Slough. H 76

PURE EXTRACTED ENGLISH HONEY, first grade, in nominal 1-lb. screw-cap bottles of the best quality, £4 4s. per gross. NOBLE, near Sandy, Potton, Beds. H 55

DRIVEN BEES (healthy), 3s. per lot, including queen; also a few strong Stocks in bar-framed hives, complete, 22s. 6d. each. WILLIS, Oakley, Wimborne, Dorset. H 61

WHAT OFFERS? 300 best quality 1-lb. SECTIONS, 18 dozen square screw-top 1-lb. Bottled Honey, 5 dozen round ditto, all excellent quality. Also quantity of good quality light HONEY in 28-lb. tins at 6d. per lb. Apply HEDGES BROTHERS, Bishops Waltham, Hants. H 77

FOR SALE, 200 Screw-cap bottles HONEY, 7s. 6d. dozen; ½ ton Extracted Honey in bulk at 5½d. lb.; also 500 sections Honey at 6s. and 7s. dozen, all of splendid quality. Four first prizes this year. Sample 3d. J. TREBBLE, The Apiaries, Romansleigh, South Molton. H 78

FOR SALE, one cwt. excellent ENGLISH EXTRACTED HONEY, in customer's own tins, £3 on rail. This is not foreign manufactured rubbish. A few doz. first quality Sections, about 14 ounces each, 7s. per doz. lbs. weight. Wanted, several young Hybrid Queens. ERNEST E. DAVIS, Great Bookham, Surrey. H 68

Prepaid Advertisements (*Continued*).

BEES.—Special Strain Ligurian Queens (crossed British Drones), quiet, vigorous workers; nuclei with 1901 Queen, 10s. 6d., Fertile Queens, 5s. 6d., Virgins, 3s. 6d., Fertile 1901 British Queens, 3s. 6d.; strong layers Clove Carnations, 2s. dozen. Edenholme Apiary, Longlevens, Gloucester. H 57

THREE strong STOCKS, two in "W.B.C." Hive, one in Herts hive, all new; two strong Swarms in Skeps, all healthy; also guinea Geared Extractor, a quantity of drawn-out Sections, Frames, &c. Wanted, cash offers for lot; inspection invited. PARKIN, junr., Bromley Farm, Wortley, Sheffield. H 72

LACE PAPER for SECTION GLAZING. White, 1 in. wide, in three neat patterns, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also LACE BANDS, White, 3 in. wide, lace both sides, 100, 1s. 3d., 200, 2s. 3d., 300, 3s.,; Pink, 3 and 3½ in. wide, 100, 1s. 6d., 200, 2s. 9d., 300, 4s.; Pale Green, 3 in. wide, same price as Pink; all post free. The alterations above are owing to colours and widths being cleared for this season. W. WOODLEY, Beedon, Newbury.

WANTED, SITUATION on bee and fruit farm. Total abstainer. "E. X. P.," *B.J.* Office. H 48

HEALTHY SWARMS, 4s. and 5s. each. Packing free. ALFRED GOULE, Henley-in-Arden. H 47

DRIVEN lots of BEES with Queens, 3s. Boxes returned. PULLEN, Ramsbury, Hungerford. H 8

EXTRACTED HONEY, 47s. 6d. per cwt.: on rail, Manea Station. Tins returnable. FRED PEPPER, 19, Market-street, King's Lynn. H 46

HEALTHY DRIVEN BEES, 4s. per lot; put on rail free. W. H. HIGLEY, 15, Mason-street, Kidderminster.

FINE young fertile ENGLISH QUEENS 1s. 6d. and 2s. each, if in perfect Introducing Cages 6d. extra. SPEARMAN, Colesbourne, Cheltenham. H 44

RAYNOR EXTRACTOR, with gearing. Used only once, 33s. 6d. Three 50s. "Century" Thermal Baths, new, 30s. each. GARNER, Dyke, Bourne. H 52

FINEST quality EXTRACTED CLOVER HONEY FOR SALE. Sample and price, 2d. KNEWSTUBB, Longmarton, Carlisle. H 34

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

PURE EXTRACTED light-coloured HONEY FOR SALE. Three stamps for sample. DAVID HANCOX, Deddington, Oxon. G 72

HEALTHY DRIVEN BEES 1s. 3d. per lb. Not less than four lb. lots. Boxes to be returned. E. LONG, Fulbourne, Cambs. H 27

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

GENUINE IMPORTED ITALIAN QUEENS.—Purity and safe arrival guaranteed. Post free with Introducing Cage, full instructions for introduction, 6s. F. SLADEN, Ripple Court Apiary, near Dover. H 25

HEALTHY DRIVEN BEES in four-lb. lots, price, 1s. 3d. per lb., with young Queen. Boxes returnable. Also young fertile QUEENS, price 1s. 6d. each, post free. R. BROWN, Flora Apiary, Somersham, Hunts. H 35

FINE PROLIFIC Tested, 1901, Fertile QUEENS, 3s. 6d. post free. Bees 1s. 6d. per lb. for 5 lb. lots or over, Queen included. Packages to be returned. Guaranteed healthy and safe arrival. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. H 37

WANTED, 200 QUEEN BEES, dead or alive, virgin or fertile; 200 Queen Cells, sealed or newly hatched. State lowest price for this number or any smaller number. BONNER CHAMBERS, Diptford, South Brent, S. Devon. H 28

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

Prepaid Advertisements (*Continued*).

WOOD'S SPECIFIC.—Sure preventive of and alleviative for Bee-Stings and all Insect Bites, &c. Non-poisonous. Sold in bottles, 1s. 3d., post paid. A certain cure for Udder Clap or Sore Teats in cows. 2s. 4d. post paid. Postal orders to WOOD & CO., Manufacturers, Black Hill, Co. Durham. H 40

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 5s. 6d.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d. (and 2s. condemned). Swarms, Stocks, and Nuclei headed by any variety queen at fair prices. Customer says:—"Friend has hived two nuclei. . . well satisfied." E. WOODHAM, Clavering, Newport, Essex. H 51

CLOSE OF SEASON, 1901.

CLEARANCE SALE.—Having a large Stock of the following still on hand, I am offering at greatly reduced prices—

"Cowan" Extractors	...	...	50/-	reduced to	42/6
"Raynor" ,,	...	...	32/6	,,	28/6
"Guinea" ,,	...	...	22/6	,,	19/-
,, Geared	...	...	33/-	,,	26/-
Small Wax Extractors	..	...	2/6	,,	2/-
Large Round Float Feeders	...		2/6	,,	1/8
Small ,, ,,	...	...	1/6	,,	1/-
Bottle Feeders	...	...	1/3	,,	10d.
Queen Excluders	...	...	9d.	,,	6d.
,, ,, ...	...	...	8/- doz.	,,	5/6
,, ,, Long Sheets	(96×16)		3/6	,,	2/3
,, ,, ,, ,,	(96×32)		6/6	,,	4/3
Standard and Shallow Frames			1/3 doz.	,,	10d.
,, ,, ,, ,,			8/4 100	,,	5/6
Sections ...	...	...	2/- 100	,,	1/8
,, Split Top	...	...	2 6 100	,,	1/10
,, ,, ,,	...	...	20/- 1,000	,,	17/-
Smokers ...	...	...	3/- each	,,	2/3
,, (Meadows')	...	...	2/6 ,,	,,	1/8
"W.B.C." Ends	...	...	4/- gross	,,	2/9
,, ,, extra wide		...	4/6 ,,	,,	3/-
Tough Wood Dividers	...	...	10d. doz.	,,	6d.
,, ,,	...	...	6/- 100	,,	3/6
Metal Dividers	...	...	1/- doz.	,,	8d.
,, ,,	...	...	7/6 100	,,	5/-
Comb Foundation	...	...	2/- lb.	,,	1/9
,, ,, Thin for Sections			2/6 lb.	,,	2/1
Super Clearers	...	...	2/- each	,,	1/8
Woiblet Spur Embedders		...	1/-	,,	9d.
Section Racks	...	...	2 6	,,	1/9
Shallow-Frame Boxes, complete			3/-	,,	2/2
Wire and Net Veils	...	...	2/-	,,	1/6
Black & White ,,	...	..	1/6	,,	1/-
Uncapping Knives	...	...	2 -	,,	1 6
"Record" Bee Hives	...	...	10 6	,,	9/9
1 gross Lea's Dovetail	...		19/-	any reasonable offer.	
1 ,, ,, Shallow				,,	,,
Honey Ripeners and Strainers			12/6	reduced to	9/6

W. SHEPHERD, Oxton, Tadcaster, Yorks.

DUMFRIESSHIRE & GALLOWAY HORTICULTURAL SOCIETY.

ANNUAL SHOW,

Drill Hall, Dumfries, Friday, August 30th, 1901.

HONEY SECTION.

Six 1-lb. Bottles of { *First Prize*, Silver Cup, value £2.
Liquid Honey. { *Second Prize*, Silver Medal.
Six 1-lb. Sections of { *First Prize*, Gold Medal.
Flower Honey. { *Second Prize*, Silver Medal.
Entry money in each class, One Shilling.

RULES.—No restrictions as to the Honey being the Exhibitor's own production.
Screw-Top Bottles. Sections Glazed.

Open to the World.

ROBERT G. MANN, *Secretary*.
"Courier" and "Herald" Offices, DUMFRIES.

Editorial, Notices, &c.

SURREY BEE-KEEPERS' ASSOCIATION

ANNUAL SHOW.

The annual exhibition of the above Association was held on August 15, 16, and 17, at the Crystal Palace, and the members of the executive have every reason to feel proud of the success which has attended their efforts, for the show was probably the largest of the kind held in the county. As an evidence of the rapid growth of the Association, it may be mentioned that five years ago, when its first show was held at Earlswood, there were less than forty entries. This year there were upwards of 300. The Association has for its object the encouragement and support of bee culture in Surrey, and that it has become, and will continue to be, a recognised institution in the county, is assured by the patronage it has secured within the county borders. The hon. secretary and treasurer of the Association (Mr. F. B. White, Redhill) carries out the work entrusted to him with a thoroughness that is a compliment to his ability as an organiser.

Among the exhibits not for competition were photographs of bee farms in the county, including those of Messrs R. C. Blundell, E. W. Walford, A. Howard, J. Jeffrey, R. Peters, J. Jeal, and F. B. White.

Messrs. W. Broughton Carr and Walter F. Reid judged the exhibits, and made the following awards :—

Twelve 1-lb. Sections.—1st, H. Sayers, jun., Chessington; 2nd, B. B. Barnes, West Sutton; 3rd, R. Peters, Banstead; h.c., E. Bontoft, Caterham, and W. A. Dawson, Cobham; c., W. Sole, Wimbledon.

Six 1-lb. Sections.—1st, H. Sayers; 2nd, W. Sole; 3rd, J. Earl, Three Bridges; v.h.c., W. W. Drewitt, Guildford; h.c., R. C. Blundell, Horley; C. W. Hinson, Wallington; J. S. Newth, Wallington; F. T. Wollaston, Reigate.

Six 1-lb. Sections Heather Honey.—1st, A. Seth-Smith, Cobham; 2nd, W. E. Hackett, Cobham; 3th, E. P. Betts, Camberley.

Three Shallow-Frames Comb Honey for Extracting.—1st, E. Bontoft; 2nd and 3rd, A. Watkin, New Malden; v.h.c., F. B. White, Redhill; c., F. B. White; J. R. Aubury, Woking; and H. Sayers, jun.

One Shallow-Frame of Comb Honey for Extracting.—1st, H. Sayers, jun.; 2nd, A. Seth-Smith; 3rd, J. Earl; h.c., A. Watkin; Miss J. M. Smith, Duxhurst, Reigate; and T. Earl, Crawley.

Twelve 1-lb. Jars Light-coloured Extracted Honey.—1st, W. Hinson; 2nd, Miss L. M. Smith; 3rd, R. Peters; C. H. Chalk.

Six 1-lb. Jars Light-coloured Honey.—1st, P. W. Worsfold, Shalford; 2nd, Harry Dann, Wallington; 3rd, T. H. E. Watts-Silvester, Surbiton Hill; h.c., John Ware, Horley.

Six 1-lb. Jars Extracted Heather Honey.—1st, W. W. Drewitt; 2nd, E. P. Betts.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, F. B. White; 2nd, F. T. Wollaston; 3rd, W. E. Hackett.

Six 1-lb. Jars Granulated Honey.—1st, G. E. Langrish, Frensham; 2nd, W. W. Drewitt; 3rd, J. W. Lewis, Farnham.

Display of Honey and Bee-Products (exceeding 100 lb. in weight).—1st, E. Bontoft; 2nd, F. B. White; 3rd, C. T. Overton, Crawley; h.c., A. Watkin.

Wax.—1st, Miss L. M. Smith; 2nd, W. W. Drewitt; c., J. W. Lewis.

Articles of Food in which Honey is an Ingredient.—1st, A. Seth-Smith; 2nd, F. J. Weise, Anerley.

OPEN CLASSES.

Six 1-lb. Sections.—1st, Charles Lodge, Chelmsford; 2nd, Rev. M. W. B. Osmaston, Goodneston, Dover; 3rd, A. W. Underwood, Sandy, Bedfordshire; h.c., E. C. R. White, Salisbury, and John Edwards, Callington; c., Messrs. Fox & Vidler, Billingham, and A. Wright, West Norwood.

Six 1-lb. Heather Sections.—1st, J. Waddell, Wooler, Northumberland; 2nd, T. E. Whitelaw, County Oak, Crawley.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st, S. Temblett, Andover; 2nd, John Edwards; 3rd, J. Merrells, Thetford, Norfolk; h.c., Harry Dann, Wallington; c., Messrs. Fox & Vidler.

Six 1-lb. Jars Extracted Heather Honey.—1st, John Berry, Llanrwst, N. W.; 2nd, E. C. R. White; 3rd, W. W. Drewitt.

Three Shallow Frames for Extracting.—1st, Rev. M. W. B. Osmaston; 2nd, A. Watkin; 3rd, E. C. R. White.

Beeswax.—1st, John Berry; 2nd, W. W. Drewitt; 3rd, C. T. Overton; c., Rev. M. W. B. Osmaston.

Interesting or Instructive Exhibit.—1st, Jas. Lee & Son, London; 2nd, G. A. Page, Reigate.

Observatory Hive, with Bees and Queen.—1st, Jas. Lee & Son; 2nd, T. Lanaway & Son, Redhill; 3rd, E. H. Taylor, Welwyn.

Collection of Hives and Appliances.—1st, Jas. Lee & Son; 2nd, E. H. Taylor; 3rd, J. S. Greenhill; v.h.c., Lanaway & Son; h.c., C. T. Overton.

Complete Frame-Hive for General Use.—1st, Jas. Lee & Son; 2nd, J. S. Greenhill; 3rd, C. T. Overton.

Suitable Outfit for Beginner in Bee-keeping (price not exceeding 20s.).—1st, E. H. Taylor; 2nd, J. S. Greenhill; 3rd, Jas. Lee & Son.

The small bronze model of the Warwick vase, presented by the "One and All" Agricultural and Horticultural Association for the best display of bee-products, was awarded to E. Bontoft.—(*Communicated.*)

SHROPSHIRE B.K.A.

ANNUAL SHOW.

The annual show was held on August 21 and 22, in connection with the Shropshire Horticultural Society's Great Floral Fete, in the beautiful grounds of the Quarry, Shrewsbury. The weather was everything that could be desired, and the number of visitors present during the two days is estimated at 90,000. The display of honey was excellent, and the entries were double those of 1900. Over 3,200 lb. of honey was staged. The B.B.K.A. silver medal was won by J. Carver, the bronze medal by T. Simpson Jones, and the certificate by E. Brookfield. Messrs. W. P. Meadows, Syston, and E. H. Taylor, Welwyn, each showed capital selections of bee-keeping appliances. The arrangements of the show were ably carried out by Miss M. E. Eyton, hon. treasurer, Mr. S. Cartwright, hon sec., and a Committee, of which Mr. Roff King was chairman.

The judges were the Rev. F. J. Buckler, Bidston; Messrs. A. Watkins, Hereford, and T. D. Schofield, Manchester, who made the following awards :—

OPEN CLASSES.

Twenty-four 1-lb. Sections.—1st, J. Clay, Wellington; 2nd, A. Hamer, Llandilo, and P. Jones, Church Stretton (equal).

Twelve 1-lb. Sections.—1st, J. Carver, Wellington; 2nd, W. Woodley, Beedon, Newbury.

Twenty-four 1-lb. Jars Light-coloured Extracted Honey.—1st, E. Clowes, Blackbrook; 2nd, A. Hamer; 3rd, W. Crellin, Barnston; v.h.c., S. Cartwright, Shawbury; h.c., T. Simpson Jones, Welshpool.

Twelve 1-lb. Jars Light-coloured Extracted Honey.—1st, A. G. Preen, Nessclifle; 2nd, Rev. W. Head, Brilley, Hereford; 3rd, W. Crellin; h.c., W. Spence, Newtown, and J. R. Bennett, Kidderminster.

Twelve 1-lb. Jars Medium-coloured Extracted Honey.—1st, P. Scott, Broseley; 2nd E. P. Hinde, Heswall; 3rd, E. R. C. White, Salisbury.

Collection of Honey from Different Flowers.—1st, J. Bradley, Yockleton.

Honey Trophy.—1st, J. Bradley; 2nd, A. Hamer; 3rd, W. H. Brown, Shrewsbury.

Complete Frame-Hive.—1st, W. P. Meadows; 2nd, E. H. Taylor; v.h.c., W. P. Meadows.

Frame-Hive (price not exceeding 15s.).—1st, W. P. Meadows, Syston; 2nd, E. H. Taylor, Welwyn; v.h.c., W. P. Meadows.

Collection of Hives and Appliances.—1st, W. P. Meadows; 2nd, E. H. Taylor.

Honey Beverage.—1st, A. Hamer; v.h.c., J. Bradley and G. W. Buttery, Wheaton-Aston.

Honey Vinegar.—1st, W. H. Brown.

Beeswax (Salop only).—1st, J. Carver; 2nd, R. Holland, Wellington; v.h.c., E. Oakes, Broseley; h.c., A. G. Preen.

Bee Flowers—1st, J. Bradley; 2nd, Miss E. Humphreys, Stoney Stretton; 3rd, Mrs. W. Powell, Cold Hatton.

MEMBERS ONLY.

Twenty-four 1-lb. Sections.—1st, J. Carver; 2nd, J. Clay; h.c., Phil. Jones.

Twelve 1-lb. Sections.—1st. J. Carver; 2nd, J. Clay; 3rd, Phil. Jones; h.c., Rev. Dan Philipps, Wollerton.

Single 1-lb. Section and 1-lb. Jar Extracted Honey.—1st, S. Cartwright; 2nd, Rev. Dan Philipps; 3rd, J. Carver; h.c., H. Venables, Wem.

Twenty-four 1-lb. Jars Light-coloured Extracted Honey.—1st, T. Simpson Jones; 2nd, S. Cartwright; 3rd, J. Carver; h.c., Rev. Dan Philipps and T. A. Bremmell, Overley.

Twelve 1-lb. Jars Light-coloured Extracted Honey.—1st, E. Brookfield, Myddle; 2nd, E. Clowes; 3rd, A. Hamer; h.c., W. H. Brown and J. Carver.

Twenty-four 1-lb. Jars Dark-coloured Extracted Honey.—1st, J. Clay; 2nd, W. H. Buck, Dawley.

Novelty Class.—1st, W. H. Brown.

Three Shallow-Frames Comb-Honey.—1st, Rev. Dan Philipps; v.h.c., L. Powell, Cold Hatton; c., F. W. Norris, Sheaves.

ARTISAN MEMBERS ONLY.

Twelve 1-lb. Sections.—1st, J. Carver, jun.; 2nd, J. Carver, sen.; v.h.c., J. Clay; h.c., P. Jones and J. Churton, Wollerton.

Six 1-lb. Sections.—1st, J. Clay; 2nd, Phil. Jones; h.c., E. Brookfield and F. W. Norris

Twelve 1-lb. Jars Extracted Honey.—1st, E. Brookfield; 2nd, J. Clay; v.h.c., J. Carver, jun.; h.c., J. Carver, sen.

Six 1-lb. Jars Extracted Honey.—1st, A. G. Preen; 2nd, E. Brookfield; 3rd, L. Powell.

COTTAGERS' CLASSES.

Twelve 1-lb. Jars Extracted Honey.—1st, G. Croxton, Yorton; 2nd, G. Lloyd, Overley; v.h.c., J. Lewis, Church Stretton.

Six 1-lb. Sections.—1st, G. Croxton; 2nd, G. Butler, Blore Heath; 3rd, J. Jones, Church Stretton.

Six 1-lb. Bottles.—1st, J. Stanton, Besford; 2nd, Mrs. W. Powell, Cold Hatton; 3rd, G. Lloyd, Overley; v.h.c., John Jones, Shrewsbury; c., G. Butler.

Single 1-lb. Bottle.—1st, G. Croxton; 2nd, Mrs. W. Powell.

Single 1-lb. Section.—1st, G. Butler; 2nd, G. Croxton.

Three Sections and Three Bottles.—1st, G. Croxton; 2nd, Jasper Jones; v.h.c., G. Butler; h.c., J. Stanton.—S. CARTWRIGHT, *Hon. Sec.*

HONEY SHOW AT NESTON PARK, WILTS.

The annual show of the Atworth and District Horticultural Society was held as usual in the grounds of Neston Park on August 7, and the unanimous verdict of all who visited

the show was that it was one of the best yet held in the seventeen years' history of the society. In addition to the horticultural exhibits, there was a tent devoted to honey and bee-culture in charge of Mr. J. W. Spencer. Mr. Jordan, Bristol, judged the honey, and made the following awards:—

Observatory Hive, with Bees and Queen.—1st, T. Swain; 2nd, W. Norris; 3rd, H. Frankham.

Twelve 1-*lb. Sections.*—1st, W. Norris; 2nd, H. Frankham.

Six 1-*lb. Sections.*—1st, F. Swain; 2nd, I. Ford; 3, W. E. Hiscocks.

Twelve 1-*lb. Jars Extracted Honey.*—1st, F. Swain; 2nd, W. Norris; 3rd, H. Frankham.

Six 1-*lb. Jars Extracted Honey.*—2nd, W. E. Hiscocks; 3rd, F. Pocock.

Collection of Honey.—1st, W. Norris; 2nd, H. Frankham; 3rd, F. Swain.

Super of Honey.—1st, W. Norris; 2nd, F. Swain; 3rd, F. Davis.

Shallow-Frame of Comb Honey.—1st, W. Norris; 2nd, H. Frankham; 3, F. Swain.

Honey Comb (over 4 lb).—1st, H. Frankham; 2nd, W. Norris; 3rd, F. Swain.

Single 1-*lb. Jar Extracted Honey.*—1st, Rev. W. Head, Brilley, Hereford; 2nd, Mrs. Brewer, Bath; 3rd, W. Norris.

Single 1-*lb. Section.*—1st, W. Norris; 2nd, H. F. Beale, Andover; 3rd, F. Pocock.

Beeswax.—1st, H. Frankham; 2nd, F. Swain; 3rd, F. Davis.

Largest Number of Queen Wasps.—1st, H. Hulbert; 2nd, F. Rogers; 3rd, V. May.

Three 1-*lb. Jars and Three* 1-*lb. Sections of Honey.*—1st, W. E. Hiscocks; 3rd, W. Gibbs.

Members of Wilts Border B.K.A. only, Observatory Hive.—1st, F. Davis; 2nd, F. Swain.—(*Communicated.*)

HONEY SHOW AT AMMANFORD, SOUTH WALES.

The show of honey introduced this year for the first time in connection with the Ammanford Horticultural Society took place on August 17, and was in every respect a gratifying success for a first attempt. As will be seen from the subjoined list, exhibits were staged from the best honey-producing counties in the kingdom, all of which were excellent in quality.

The following were the awards:—

Single 1-*lb. Jar Extracted Honey.*—1st, W. Hatliff, Thoresway, Caistor, Lincs; 2nd, T. Blake, Broughton, Hants; 3rd, W. G. Dear, Woodford, Salisbury; 4th, A. G. Pugh, Beeston, Notts; 5th, W. Woodley, Beedon, Newbury; h.c., D. Williams, Llanwrtyd.

Single 1-*lb. Section.*—1st, A. Hamer, Llandilo; 2nd, W. Woodley; 3rd, A. J. Beale, Andover; 4th, W. Patchett, Caistor, Lincs; 5th, Rev. Dan Philipps, Wollerton.

Three 1-*lb. Jars Light-coloured Extracted Honey.*—1st, G. Spearman, Colesbourne; 2nd, W. G. Dear; 3rd, F. T. Evans, Ammanford.

Three 1-*lb. Jars Dark-coloured Extracted Honey.*—1st, A. Hamer; 2nd, Rev. E. Lloyd, Ammanford; 3rd, Thos. Roberts, Garnant.

Three 1-*lb. Sections.*—1st, H. Samways, Maesybont, Llandibie; 2nd, Jas. Roerick, The Gardens, Dynevor Castle, Llandilo; 3rd, W. Woodley.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

COMMENTS ON CURRENT TOPICS.

[4475.] *Returning Swarms.*—So many swarms have united of their own accord this season that anything like a separation of the different lots became utterly impossible. They were therefore parted as equally as the circumstances allowed, and returned to their own or some other hive indiscriminately. When thrown down on the hiving-board, swarms as soon as the cry of home is sounded, march in a solid phalanx right for the entrance. A curious exception frequently occurs in the case of swarms returned into another hive than the one from which they issued. In my experience these are never rejected, nor have I ever had any fighting while they are marching in, but I have repeatedly detected a *tremor* or *thrill* pass over the whole body of bees, and, at some sign or cry, a momentary pause, simultaneous and universal, takes place, as if "Halt!" had been sounded by some high authority. It looks for an instant as if they were one and all about to retreat, but the "Spirit of the Hive" seems to assure them of amicable treatment, and they soon resume their march for the entrance. The phenomenon was observed on several occasions, and only under similar circumstances.

The Dummy.—This is one of the most important parts about a hive, and on its judicious manipulation the well-being of the colony very frequently depends. Yet in many cases its use is unknown. The orthodox nine or ten frames are there, but no means of contracting the space exists. So, whether the swarm is large or small, a late or early one, a top swarm or a cast, they are hived on the same number of frames. A little consideration of the subject should show that this is a

most unwise policy, and militates against a high degree of success. I prefer as a rule to use only six frames when hiving a good swarm, with quarter sheets, and when these are approaching completion I add others with full sheets of foundation. I had a theory that when but five or six frames were given at first the bees would construct only *worker* cells. The strong force of workers in the limited space enabled them to keep pace with the requirements of even a prolific queen, and so they had no desire for drone or special store cells. This had become a settled belief with me, but this abnormal season shakes my faith a little. What is the experience of others?

Five Racks.—My success with this mode of supering again induces me to refer to it. This season, in my small apiary, I had four hives with five racks on at one time. New racks were given atop of those previously or, rather, in anticipation of the wants of the bees. Of course, the lower ones were not left below all the time, but when nearing completion they were raised above the others and left there until fully sealed. Now the curious feature was that these four were the only hives which did not swarm; all the others, with two and three racks did—several of them again and again—so that this season I had as many swarms as I had during the past five years. Were these particular colonies all non-swarming bees or was it the management which induced them to keep so steadily at work and give me so handsome a surplus?

Rack v. Crate.—The repeated use of the word *rack* in the foregoing paragraph reminds me that in nearly all the dealers' catalogues the term *crate* is used. Some years ago I noted the fact, and rather favoured their side of the question, but our Editors expressed so strong a preference for the other that in writing I adopt it, though while thinking and speaking of the article I call it by the other name. It would be a good thing if all of us could fall into line and adopt one term. Would a discussion and resolution at the next *Conversazione* assist in obtaining this desirable end?

Queen Introduction.—I have introduced five queens lately, and each of them in a different way. It may interest some to know how it was done, and, if necessary, further explanation could be given later.—

1. The cage had a feed-hole at one end, with a supply of candy. It was simply placed on the tops of the frames under the corner of the quilt. The bees of the hive liberated the queen in thirty-six hours or earlier.

2. The top of the cage was covered with perforated zinc, and this was laid resting on the frames. In twenty-four hours the covering was withdrawn and the queen set free.

3. The queen from a swarm was induced to walk into a glass tube and carried to the dequeened colony, when she was allowed quietly to walk down the frame, the bees being driven back previously by a puff of smoke.

4. A skep was driven and the bees slightly floured as they ran into their new home, while the queen (a virgin) got a dusting and ran in along with the bees.

5. A forced swarm on being shaken on the hiving board, accepted the new queen thrown out of the cage amongst them as they marched in. In neither case was the queen touched by the fingers of the operator.—D. M. M., *Banff.*

BEES AND HONEY ABROAD.

HONEY ALL THE YEAR ROUND.

[4476.] The question raised by Mr. Godsland in last week's JOURNAL (4471, page 335) as to the possibility of bees forsaking the habits which we should say were stereotyped in the race, and living from hand to mouth in countries where the honey supply is perennial, may deserve a little more attention than has been yet paid to it.

A few weeks ago I should certainly have supported your correspondent in asserting that such a thing was unlikely, and the Editors' footnote shows us that if we were in error we were sinning in such good company that our faults were quite venial. The question, however, comes up in that charming book, so well reviewed in our JOURNAL, July 25, "The Life of the Bee," by Maeterlinck, and the author is so careful in most of his observations that what he says as to this matter is worthy of consideration and further research. In the chapter on "The progress of the race" he says (page 311):—"And finally there is yet another fact which establishes still more closely that the customs and prudent organisation of the hive are not the results of a primitive impulse, mechanically followed through different ages and climates, but that the spirit which governs the little republic is fully as capable of taking note of new conditions and turning these to the best advantage, as in times long past it was capable of meeting the dangers that hemmed it around. Transport our black bee to California or Australia, and her habits will completely alter. Finding that summer is perpetual and flowers for ever abundant, she will, after one or two years, be content to live from day to day and gather only sufficient honey and pollen for the day's consumption; and her thoughtful observation of these new features triumphing over hereditary experience, she will cease to make provision for the winter. In fact, it becomes necessary, in order to stimulate her activity, to deprive her systematically of the fruits of her labour."

These statements are so startling, and at the same time given so unhesitatingly by a great bee-master, that they open up a field of research in which it surely should not be difficult to glean the exact truth.—A. A. H., *Alresford, Hants, August* 26.

(*Correspondence continued on page* 346.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The pretty bee-garden illustrated below has, we are told, been a continuous "home of the honey-bee" for five generations of its present owner's family: and, as such, Mr. March's neat little apiary will possess more than ordinary interest for bee-men as showing how the "born bee-keeper" can adapt himself to modern methods of bee-keeping. Nor can we wonder at our friend's warm attachment to a home where the cheery sound of the bees' hum has been heard for so long a period of time. Long may the "industrious little labourer" occupy a place in so typical an English

MR. HARRY T. MARCH'S APIARY, HORSFORD, NEAR NORWICH.

village dwelling as the one seen, and long may Mr. March live to enjoy the "home" he loves so well. Regarding the same he says:—

"My apiary is situated in the parish of Horsford, a village about four miles from the city of Norwich. It is an agricultural district, of which the chief source of honey available to the bees is white clover and heather. The ground where my hives stand is the very spot whereon my grandfather placed his first skep of bees, and well do I remember how he would sit and watch the little workers coming home laden with honey and pollen. The straw 'eke' on which my 'smoker' stands, together with the skep 'cap' with a bit of glass let in its upper part (seen in foreground of photo), are relics of the old-fashioned bee-keeping of past days. I had the straw cap shown filled with beautiful honey last year. My father also was a bee-keeper, but gave it up some years ago, and so it devolved upon me to provide the bee-garden seen below, and from it I derive a great amount of pleasure. This has not only been a 'home of the honey-bee,' but a home for the family for five successive generations past. How much longer it will so continue I am unable to say, although when I look back to the days of my childhood and onward till now my fondness for the old place seems to increase, and to me there is no place so sweet as 'home.'

"The hives seen in picture are all my own make, and being a carpenter and wheelwright by trade, I can do all the woodwork myself. I also make my own frames, for which I have a block made for the purpose of ensuring that they are the correct size. My first start with bees and hives worked on the modern plan was when a friend explained the system, and placed Mr. Cowan's 'Guide Book' in my hands, which, with the help of the B.B.J., soon led me to success. My greatest 'take' of honey from one hive was 60 lb. and one swarm from the same stock in 1899. I may say I am a great advocate for the wide shallow-frame, also the well-known 'W.B.C.' hive, of which I have six. The figures seen in picture are those of my wife and son, along with myself. I may say the good wife does her share of the apiary work in bottling up

honey and preparing it for market. She also makes very good mead for home-use. In concluding, let me say, in bee-keeping, as in other things, 'what is worth doing at all is worth doing well.'"

CORRESPONDENCE.

(*Continued from page* 344.)

PERSISTENT SWARMING.

[4477.] Perhaps the following may interest B.B.J. readers, and I will be glad if you will let me know if such a thing is of common occurrence. One of my hives is exceedingly strong, with a last year's queen. A heavy swarm came off on July 21 while I was away from home, and on my return the following day the swarm was returned to the parent hive. To give the bees more room, I put on two racks of sections; but bad weather followed, and continued till the beginning of this month, when the bees began working very hard.

On Friday last (August 16) a huge swarm came off and settled as usual, but before I had attempted to get the bees into the hiving skep, they took wing, and returned to the hive. I removed the sections (only two of which were capped in the top rack, but a good many were full and ready for capping) and cut out all the queen-cells.

On Tuesday, the 20th, the bees again swarmed, sending out an equally large or larger swarm than the previous one, and after clustering for a short time, returned to the hive as before.

I again examined the combs, and found, to my surprise, five *capped* queen-cells (many others not so). A neighbour who assisted me put it down to my carelessness during my previous examinations. We were, therefore, exceedingly careful to leave not even a trace of a queen-cell behind.

The bees worked magnificently on Thursday, the 22nd, and I congratulated myself on the bees having given up all idea of swarming, when to my surprise yesterday the swarm again repeated the same tactics as before. Imagine my surprise, on examining the hive, to find four capped queen-cells and many others being drawn out.

I removed them, and then it struck me that I had seen no larvæ in any cells and that there was nothing but capped-brood in the hive. To-day, therefore, I again carefully examined the hive and found, as I dare say you now suspect, that the hive was queenless and no sign of eggs or larvæ. In view of this I would ask—1. If it is common for bees to swarm when they have no queen? 2. If, when they have a queen, supposing she was only lost on the last time of their issuing, is it usual for them to turn ordinary worker larvæ into capped queen-celled ones (!) in a day? 3. As I had no young queens, I gave them a comb with eggs from another hive. Is it likely that they will be able to rear a young queen in time before winter for her to meet the drones?

During the whole of last week the bees have been working "like hatters" at the heather up to the moment of swarming, many of the bees on the swarm having their legs loaded with pollen. If it had not been for the extraordinary behaviour of this tremendously strong hive, in which there is still much brood, though it is just hatching out, I should have had a grand heather-honey crop, judging by my other hive, which is not nearly so strong and has loads of honey in sections "down below."—KENNETH O. MACLEOD, *Glenfenlan, Shandon, N.B., August* 24.

[We may first say, "bees do nothing invariably"; for the rest, we reply:—1. No; in fact, the bees were not queenless when the first swarm issued, but queen evidently met with some mishap, which caused the swarm to return to parent hive. The subsequent action of the bees was due to their having made up their minds to swarm, and being demoralised by loss of the parent queen. 2. Every bee-keeper should know that queens are raised from worker larvæ, and that it is only the highly stimulative food known as royal jelly, given in abundance, that transforms the worker larva into a queen bee. 3. Hardly so; the season is now too far gone for that. You will need to re-queen the stock. This should be done with as little delay as possible, in order that a good batch of young bees may be reared for wintering.—EDS.]

DESTROYING WASPS' NESTS.

[4478.] Referring to Mr. Reid's letter of August 8 (4457, page 313), I find the carbon bisulphide far more effectual than cyanide of potassium. With the former remedy, a tablespoonful of the liquid poured into the entrance of the wasp-nest suffocates the insects effectually in a few minutes, so that the nest can be dug up at once. Bisulphide is, however, dangerously explosive. I lighted a lucifer to examine an entrance, first removing the bottle to a distance, and although only a very little had been poured into the hole there was an explosion instantly, and the saturated earth burned furiously. How are the males of *Vespa vulgaris* distinguishable? Are the periods of incubation same as with bees? Could a nest be taken by chloroforming so as to remove nest intact and alive?—T. ANGUS, *Dartford, August* 24.

*** Reports of several shows are in type and will appear in our next issue, together with some letters and queries crowded out this week.

Echoes from the Hives.

Gelli Lydan, Merioneth, August 19.—Our bees for the last three weeks have been kept indoors owing to heavy rains, so our season is shortened considerably. The heathers are in full bloom, and man and bee anxious for calm, sunny days. What sections I have taken out are of beautiful amber colour, weighing from 16 oz. to 18 oz., which sell readily at 1s. each. I notice that a poppy called "Miss Sherwood" is a grand pollen-producer; the bees watch every flower opening.—J. B. WILLIAMS.

Ballindullock, N.B., August 26.—Glorious season. Bright and sunny all day. Mild as mid-day all night. Bees with three racks bunching out. Been away holiday-making from early days of month. Just returned, and find fourth rack (placed on above to act as a cooler) all but filled and sealed. Several wanted supervision badly, as no member of my family now at home cares to go near bees. Alas, that our bright sky should have a cloud! Prices rule low—*i.e.*, to the seller, 6d. upwards; to the buyer, 10d. up to 1s. 6d. I quote Glasgow, Edinburgh, and Aberdeen prices. Glasgow is doing splendidly. I spent the week, 12th to 19th, at the Exhibition. It is decidedly good. I regretted not seeing anything in our line. In great haste. Hope enclosed will be in time.—D. M. M.

Levisham, near Pickering, August 24.—The past week has been the best I have ever known for the bees so far as regards work on the moors. Nectar in abundance, and the best of weather to secure it. Good "takes" of heather honey in this district are now assured. —J. RYMER.

THE SEASON IN BERWICKSHIRE.

GOING TO THE MOORS.

The season's take may be thus summed up:—Where all stocks swarmed twice, from a few sections only to 20 lb.; where about half the stocks swarmed, 40 lb.; where no swarming took place, 65 lb. to 70 lb. per hive; while a hive here and there has yielded about 80 lb.

The heather harvest is just beginning, and the prospect is fairly good, bees which have been at the moors for ten days have already made considerable headway, and should good weather continue the sections will fill rapidly.

The carting to the moors has been going on for the last ten days or rather nights, and it has been a source of interest and pleasure to watch them from one's bedroom window as they passed. As the midnight hour draws nigh one hears through the stillness of the night the steady tramp of a work horse, and the rumble of a cart, as it wends its way up the hill; at no great distance follows a light lorry, also with its load of hives, then two or three together. Sometimes as many as five carts will pass in company. Solitary pony-carts, carts loaded full and high, carts loaded with one or two hives only, some marching easy and steady, others with eager step, hurrying on to gain the uplands before daylight breaks. Silently, too, these bee-keepers march; one rarely hears a word spoken, although they usually go in pairs, as they bear a delicate burden, and there is always the risk of the bees getting out.

Two cases at least have occurred this season where this has happened, and the journey has been stopped till daylight. Before daylight comes, the stream of travellers upwards ceases, and by half-past four the bee-men begin to return. The darkness has now gone, so let us see what manner of men they are who follow this craft.

Sharp, intelligent men, most of them, following the occupations of gamekeepers, gardeners, foresters, carters, farmers and farm servants, tailors, shoemakers, blacksmiths, joiners, insurance agents, booksellers, schoolmasters, stationmasters, and railway porters. With some the journey is a long one, coming, as they do, a distance of from ten to fifteen miles. A boy who has prevailed on his father to take him to the moors occasionally accompanies the carts, and sometimes on the homeward journey he is observed to be asleep among the straw.

A visit to the moors while the bees are there well repays one, so let us have a look round while they are thus gathered together. Mounting our bicycle, after an almost steady climb of three miles we arrive at the Camp Muir Plantation, on the Langton estate. Here, in clusters of from six to twenty, we find inside and outside the moor over 100 hives. As the sun has just burst out after rain, the bees are in full flight, and we see them to advantage. Passing out on to the muir, the air seems full of them as they pass to and fro, while the breeze is positively redolent of honey after the rain. Remounting our wheel, we pass on another mile to Cattle Shiel, where, behind a stone dyke, we count no fewer than 144 hives, going strong all of them; while about another mile across the moor we can see a third colony, which we are told numbers about fifty hives. Hives there are of every shape and variety, large and small, home-made, joiner-made, and factory-made; hives with feet, those without feet; sloping roofs, ridge-roofs, flat roofs; single hives, double hives, octagons, straw skeps, hives made out of tea boxes, and one—for old customs die hard—made from a cheese-box. The painting of them comprises nearly all the colours of the rainbow.

Here, therefore, within a radius of two miles, we have 300 hives at work; while at Haliburton, three miles west, and at Dronshiel, three miles east, also large numbers may be found.—LAMMERMUIR.

(*Condensed from the "Scotsman," August* 9.)

Queries and Replies.

[2711.] *Bees Transferring Themselves from Skeps to Frame-Hives.*—Will you kindly advise me in next issue of B.J. on the following:—About two months ago I put two stocks of bees in flat-topped skeps on the top of two frame-hives fitted with full sheets of foundation, and although the bees had to pass down through the lower hive to reach the outside, and had also drawn out the combs and placed a nice lot of honey in them, yet the queen has not in either case started breeding in the frame-hive, but is still in skep with a quantity of brood. I therefore ask:—Is it too late to drive the bees and queen from the skep and place excluder between them and the skep, and cover warm for three weeks until the brood has hatched out?—BATH, *Somerset, August* 26.

REPLY.—1. Had the queen really needed room for egg-laying, and the bees been sufficiently numerous to occupy both skep and frame-hive, there is no doubt that the brood-nest would have been transferred below. As it happened, however, many causes may have tended to keep the queen in skep. The frame-hive should be made as snug and warm as possible to tempt the queen below, or, perhaps, she is not very prolific. Again, honey may not have come in well; if it had, the comb in skep would have been filled and the queen thus forced below, but we cannot judge the cause accurately without inspection. 2. If the combs in frame-hive are built out it is not too late to do as proposed, but we should not sacrifice any unhatched brood now in skep, nor should the latter be left on. After driving the bees from skep, cut out all brood and either tie it into frames or fix it up in a box suitable for placing above for hatching out, and so save valuable bee-life for the colony Pack the hive as warm as possible, and feed up well and quickly so as to get all winter stores capped over in good time.

PRESS-CUTTINGS.

USEFUL, INTERESTING, AND "OTHERWISE."

A correspondent writes:—

DEAR SIR,—I have lately read in various journals that bee-keeping is a profitable industry. I should be glad of the address of those authors of fiction, in order that I might personally express to them my idea of their statement. Will you allow me to give you my experience of this industry? Understanding that, by judicious management, I could pay my house-rent and buy a motor-car out of the profits, I bought a bee-hive ready furnished. The thing was placed in my garden, and I was told that the bees would swarm soon, and then I should have two lots for the price of one. This idea appealed to my commercial sense, and I waited for the swarming. It came when I was out, and there was no one at home except my aged grandmother in the parlour, a cow in the paddock, and a servant in the linen cupboard. The bees swarmed at twelve o'clock in the morning. They swarmed on the cow's left ear. This naturally irritated the placid animal, who galloped up the garden, and plunged through the French windows into the parlour, thinking, I presume, that grandmother could do something. Grandmother, however, thought it best to faint, while the cow turned and fled excitedly down the road, and committed suicide in the canal. She still floats there, and I am to be summoned by the water company for making an improper use of their fluid. What became of the bees I don't know. But I do know what has become of grandmother. She is in a lunatic asylum, babbling fearfully of apparitions and declaring that she has always led an upright life, and would like a peaceful end. The rest of the family declare that I set the cow at her on purpose. For grandmother has funds, and made her will in my favour two days ago. There are a few bees left, I believe, in the hive, and any one is at liberty to fetch them away. I shall keep no bees in future. I would as soon harbour a shark in my bath-room.—Yours disgustedly,

ANTI-BEEMONGER.

[It was your grandmother's fault. She should have searched the cow carefully, extracted the queen-bee, and placed it in a new hive prepared for the purpose. But perhaps she hadn't time. Sorry all the same. —ED.]—*Moonshine.*

Bee Shows to Come.

August 31, at Dumfries.—South of Scotland B.K.A. Annual Show. **Open Classes for "Sixes,"** with Prizes of 20s., 15s., 10s., 5s.

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market.

September 10, at Cartmel, Lancs.—Honey show under the auspices of the Lancs. B.K.A., in connection with the show of the Cartmel Agricultural Society. Three open classes for honey. Schedules from W. Cragg, Cartmel via Carnforth.

September 11 and 12, at Derby.—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Honey on the show ground of the Derbyshire Agricultural Society. Schedules from F. Walker, Secretary D.B.K.A., 64, Gerard-street Derby. **Entries close August 30.**

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, a Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. Eleven classes for comb and extracted honey

and bees-wax. **Open to all British Bee-keepers. Entries close August 31.** (See page v.)

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

HALL (Leeds). — *Chemists and British Honey.*—Of course, we cannot judge with regard to the chemist referred to and his poor opinion of "English honey," but as a matter of fact we know that honey produced in this country, if properly ripe when removed from the hive (as all honey should be), will keep as well as that from any country in the world. To talk of "Normandy honey" being superior to English is to display woful ignorance of honey as a product. And this can be abundantly proved if your friend the chemist is anxious to test the matter.

ALBERT SANDYS (Drayton).—*Foul Brood among Wasps.*—The cake of wasp-brood safe to hand. When opened many scores of wasps had hatched out. We hope to print your letter next week, along with results of microscopical examination of wasp-brood in the combs forwarded.

NOVICE (Stourbridge).—*Re-queening Stocks.*—1. Leave queen-cells and let the resultant queen head the colony. She may prove better than a purchased queen, and you thus will be a gainer all round. 2. No. 3. As the stock is affected you must treat it as such.

PRINCE (Yarm). — *Abortive Queen-Cells.*—The larva in sealed cell sent had perished before reaching the pupa stage. It is not at all uncommon to find such abortive queen-cells in hives.

W. SMITH (Glos.).—*Bee Nomenclature.*—Bee sent is of the ordinary or common kind known in this country.

Honey Samples.

J. WALLACE (Brainhall).—Honey is very good and quite suitable for the show-bench.

DURHAM.—While not doubting that there is "white-clover honey" in sample sent, it is so mixed with nectar from other sources that the characteristic flavour and aroma of white-clover honey is gone, and it would not be accepted by good judges as from that plant.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

A LOVER OF BEES (Oswestry).—There are no traces of brood—foul or otherwise—in the bit of old and black drone-comb sent.

J. S. (Aberdare).—No. 1 sample is badly affected with foul brood. In No. 2 the disease is just starting.

G. L. (Keighley), J. B. (Kidderminster), "Hazlewood" (Birmingham).—In the last-named case the disease is only just starting.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

HEATHER HONEY LABELS, 9d. 100., 3s. 1d. 500. GUEST, King's Norton. H 84

DRIVEN BEES FOR SALE. With Queen, 4s. Also several Stocks in skeps. PETERS, Banstead. H 81

HEATHER HONEY in sections and shallow-frames. Address, "A." *Bee Journal* Office. H 90

GOOD CLOVER SECTIONS FOR SALE, well-filled and clean, 8s. per doz.; 2nd class, 7s. Also Extracted. GARNETT, Well, Bedale, Yorks. H 89

SECTIONS and EXTRACTED HONEY FOR SALE. Good quality. T. HAMMOND, Great Totham, Witham, Essex. H 88

HONEY FOR SALE.—Sainfoin, Clover, 6d. lb. Tins and crates free. Samples 2d. H. MAY, Kingston, Blount, Wallingford. H 87

DRIVEN BEES, 2s. 6d.; healthy lots. 1901 Queens for Sale. CADMAN, Codsall Wood, Wolverhampton. H 86

SPLENDID NATIVE and LIGURIAN 1901 tested QUEENS, 5s. each. GUTHRIE, Alloway, Ayr. H 80

HONEY IN BULK WANTED. Send sample, with price per cwt. carriage paid. CASTLE'S, 25, Oxford-street, London, W. H 83

BEES FOR SALE, owing to removal, 6 strong Stocks in bar-frame hives, and 4 Straw Skeps; healthy. Mrs. HYDE, France Farm Cottage, Botleys, Chertsey. H 91

WANTED, first-class new CLOVER HONEY (extracted). Also full weight Sections, any quantity cash. Sample and price, to A. S. DELL, Leigh, Lancs. H 82

300 ONE-POUND BOTTLES EXTRACTED HONEY, 7s. doz.; sample 3d. Also 500 sections, weighing over 15 oz., 7s. doz.; second quality, over 14 oz., 6s. doz. All splendid quality. TREBBLE, The Apiaries, Romansleigh, South Molton. H 85

EDWARD'S PEDIGREE QUEENS, record-creating, non-swarming strain; autumn-raised, 4s. each, post free, in new introducing cage. Selected Queens, 5s. 6d. Orders now booked. Shrubshill Apiary, Sunningdale (late "Beecroft," Ashford).

QUEEN RAISING APPLIANCES.—Prepared frame, 10-cell Studs, as exhibited last Dairy Show, 2s. 3d.; ditto, 20 studs, 3s. 6d. post free. Dipping and transferring sticks, wax cups, cages, &c. EDWARDS, above.

Prepaid Advertisements (*Continued*).

DRIVEN lots of BEES with Queens, 2s. 6d. Boxes returned. PULLEN, Ramsbury, Hungerford. H 8

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

FOR SALE. 20 lots DRIVEN BEES, 3s. per lot, or 9d. per lb., with Queen; boxes returnable. J. BARNES, Burwell, Cambs. H 79

DRIVEN BEES with Queen, 3s. per lot; two lots, 5s. 6d. Orders booked in rotation for September. Box free. MARTIN, Bee-keeper, Wokingham, Berks. H 67

TESTED ENGLISH QUEENS, bred from selected strain, 5s. each, in introducing cage. W. WOODLEY, Beedon, Newbury.

HEALTHY DRIVEN BEES 1s. 3d. per lb. Not less than four lb. lots. Boxes to be returned. E. LONG, Fulbourne, Cambs. H 27

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

GENUINE IMPORTED ITALIAN QUEENS.—Purity and safe arrival guaranteed. Post free with Introducing Cage, full instructions for introduction, 6s. F. SLADEN, Ripple Court Apiary, near Dover. H 25

25TH YEAR.—Choice 1901 QUEENS, in introducing cages, 3s. 9d., delivered; with Swarm for building up, 5s. 6d. Package free. ALSFORD, Expert, Blandford. H 63

SEVEN BAR-FRAME HIVES, four Skeps, Extractors and sundries, Bees healthy, good condition, £10 or offers. HERROD, Trentside Apiary, Sutton-on-Trent, Newark. H 62

TO SELL your SECTIONS try the NEW FOLDING CASES; assorted colours; gold lettering; very effective; 6s. 6d. 100. Sample free. HEWETT'S, Laburnum Apiary, Alton, Hants. H 71

DRIVEN BEES (healthy), 3s. per lot, including queen; also a few strong Stocks in bar-framed hives, complete, 22s. 6d. each. WILLIS, Oakley, Wimborne, Dorset. H 61

STRONG STOCKS in skeps, 1901 fertile Queen, guaranteed healthy, 11s. 6d. Well-rooted Strawberry Plants, "Sir Joseph Paxton," 2s. 100. WOODS, Normandy, Guildford. H 74

FINE PROLIFIC Tested 1901 QUEENS, 3s. 6d. each, post free. Bees 1s. 3d. per lb. for 5 lb. lots or over, Queen included. Guaranteed healthy and safe arrival. Packages to be returned. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. H 37

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

BEES. Special Strain Ligurian Queens (crossed British Drones), quiet, vigorous workers; nuclei with 1901 Queen, 10s. 6d.. Fertile Queens, 5s. 6d., Virgins, 3s. 6d., Fertile 1901 British Queens, 3s. 6d.; strong layers Clove Carnations, 2s. dozen. Edenholme Apiary, Longlevens, Gloucester. H 57

WOOD'S SPECIFIC.—Sure preventive of and alleviative for Bee-Stings and all Insect Bites, &c. Non-poisonous. Sold in bottles, 1s. 3d., post paid. A certain cure for Udder Clap or Sore Teats in cows. 2s. 4d. post paid. Postal orders to WOOD & Co., Manufacturers, Black Hill, Co. Durham. H 40

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

Prepaid Advertisements (*Continued*).

DON'T BE STUNG. Wear Reynolds' "Burkitt Bee Gloves." A great success. Unsolicited testimonials. Light in substance, useful, durable. 2s. 2d per pair, or with self-adjusting gauntlets attached, 2s. 10d. per pair, post paid. Special terms to the trade. Sole Maker, EDWARD REYNOLDS, Andover, Hants.

PROLIFIC QUEENS.—Pure Imported Carniolans, 7s.; Italians, 5s. 6d.; home-bred from imported mothers, 4s. 6d.; others, 3s. 6d. (and 2s. condemned). Swarms, Stocks, and Nuclei headed by any variety queen at fair prices. Customer says:—"Friend has hived two nuclei. . . well satisfied." E. WOODHAM, Clavering, Newport, Essex. H 51

LACE PAPER for SECTION GLAZING. White, 1 in. wide, in three neat patterns, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also LACE BANDS, White, 3 in. wide, lace both sides, 100, 1s. 3d., 200, 2s. 3d., 300, 3s.,; Pink, 3 and 3½ in. wide, 100, 1s. 6d., 200, 2s. 9d., 300, 4s.; Pale Green, 3 in. wide, same price as Pink; all post free. The alterations above are owing to colours and widths being cleared for this season. W. WOODLEY, Beedon, Newbury.

LANCASHIRE B.K.A.

QUALIFIED EXPERT WANTED AT ONCE.

£3 per week and Bonus on new Members. Apply, F. H. TAYLOR, Hon. Sec., Birch Fold Cottage, Fallowfield, Manchester.

DAIRY SHOW,

LONDON,

OCTOBER 8, 9, 10, 11.

Prizes for Honey, Wax, &c.

ENTRIES CLOSE SEPTEMBER 9th.

Sec., **WM. C. YOUNG,** 12, Hanover-square, London, W.

CLOSE OF SEASON, 1901.

CLEARANCE SALE.—Having a large Stock of the following still on hand, I am offering at greatly reduced prices—

"Cowan" Extractors	50/-	reduced to	42/6
"Raynor" ,, ...	32/6	,,	28/6
"Guinea" ,, ...	22/6	,,	19/-
,, Geared	33/-	,,	26/-
Small Wax Extractors	2/6	,,	2/-
Large Round Float Feeders ...	2/6	,,	1/8
Small ,, ,, ...	1/6	,,	1/-
Bottle Feeders	1/3	,,	10d.
Queen Excluders	9d.	,,	6d.
,, ,, ...	8/- doz.	,,	5/6
,, ,, Long Sheets (96×16)	3/6	,,	2/3
,, ,, ,, (96×32)	6/6	,,	4/3
Standard and Shallow Frames	1/3 doz.	,,	10d.
,, ,, ,, ,,	8/4 100	,,	5/6
Sections	2/- 100	,,	1/8
,, Split Top	2/6 100	,,	1/10
,, ,, ,, ...	20 - 1,000	,,	17/-
Smokers	3/- each	,,	2/3
,, (Meadows')	2/6 ,,	,,	1/8
"W.B.C." Ends	4/- gross	,,	2/9
,, ,, extra wide .	4/6 ,,	,,	3/-
Tough Wood Dividers	10d. doz.	,,	6d.
,, ,, ...	6/- 100	,,	3/6
Metal Dividers	1/- doz.	,,	8d.
,, ,, ...	7/6 100	,,	5/-
Comb Foundation	2/- lb.	,,	1/9
,, ,, Thin for Sections	2/6 lb.	,,	2/1
Super Clearers	2/- each	,,	1/8
Woiblet Spur Embedders ...	1/-	,,	9d.
Section Racks	2/6	,,	1/9
Shallow-Frame Boxes, complete	3/-	,,	2/2
Wire and Net Veils	2/-	,,	1/6
Black & White ,, ...	1/6	,,	1/-
Uncapping Knives	2/-	,,	1/6
"Record" Bee Hives	10/6	,,	9/9

1 gross Lee's Dovetail Frames 19/- any reasonable offer.
1 ,, Shallow ,, ,, ,, ,,
Honey Ripeners and Strainers 12/6 reduced to 9/6

W. SHEPHERD, Oxton, Tadcaster, Yorks.

Editorial, Notices, &c.

NORTHAMPTONSHIRE B.K.A.

The annual show of the Northamptonshire B.K.A. was this year held on August 8, in connection with the Kingsthorpe Horticultural Show, in the pleasant grounds attached to the residence of Lady Robinson, St. David's, Kingsthorpe, and was considered on all hands to be one of the best shows ever held by the Association. In the open class for 1-lb. jar, forty-seven exhibits were staged. Messrs. R. King and J. R. Truss judged the honey, and Mr. George Hefford the honey cakes, the awards being as follows :—

Twelve 1-lb. *Sections.*—1st, James Adams, West Haddon; 2nd, Geo. H. Skevington, Northampton; 3rd, H. Williams, Overstone; 4th. Geo. Page, Halcot.

Twelve 1-*lb. Jars Extracted* (*Light*) *Honey.*—1st, T. H. Plowright, Brackley; 2nd, O. Orland, Flore; 3rd, C. Cox, Brampton; 4th, G. Page; 5th, Mrs. Wells, Oxendon.

Six 1 *lb. Jars Extracted* (*Dark*) *Honey.*—1st. J. Pollard, Bucks; 2nd, H. Williams; 3rd, James Adams.

Six 1-*lb. Jars Granulated Honey.*—1st, G. Page; 2nd, W. Manning; 3rd, C. Cox.

Three Shallow Frames Honey in Comb.—1st, C. Cox; 2nd, G. H. Skevington; 3rd, C. Wells; 4th, James Adams.

Beeswax.—1st, H. Williams; 2nd, C. Wells; 3rd, F. J. Old; h.c., Mrs. Cox.

Six 1-*lb. Sections* (novices).—1st, G. S. Pilgrim; 2nd, Thos. Norman; 3rd, W. Williams.

Six 1-*lb Jars Extracted Honey.*—1st, C. H. Smith, Thrapston; 2nd, Mrs. Reynolds, Overstone; 3rd, W. Williams; h.c., J. Pollard.

Super of Comb Honey.—1st, W. Allen; 2nd, W. Williams; 3rd, T. Norman.

Single 1-*lb. Jar of Honey* (open).—1st, Thos. Plowright; 2nd, J. Smart, Andover; 3rd, W. Hatliffe, Thoresway, Lincs; 4th, Thos. Blake, Stockbridge; 5th, Jas. Buckby, Burton Latimer; 6th, G. H. Smith.

Single 1-*lb. Jar of Honey* (open).—1st, W. G. Dear, Middle Woodford, Salisbury; 2nd, J. Smart; 3rd, W. Loveday; 4th, T. Plowright; h.c., Jas. Buckby.

Honey Cake.—1st, W. Hatliff; 2nd, Mrs. Skevington; 3rd, Miss Whiteside, Kingthorpe; 4th, Miss Ellard, Queen's Park Parade.

GOOLE AND DISTRICT B.K.A.

The annual show of the above was held at Goole on August 15 in connection with the show of the Goole Agricultural and Horticultural Society, when the entries showed an increase over those of last year, whilst the quality of the exhibits was superior to those of late years, owing to the better season.

Mr. R. A. H. Grimshaw officiated as judge, and made the following awards :—

OPEN CLASSES.

Six 1-*lb. Sections.*—1st, W. Woodley, Newbury, Berks; 2nd, W. Dixon, Leeds; 3rd, W. Smith, Preston, Hull.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. E. Richardson, Driffield; 2nd, H. Hunkin, Neath; 3rd, Rev. J. R. Bradshaw, Hessay, York.

Two Shallow-frames of Comb Honey.—1st, W. Smith; 2nd, A. Woodhead, Goole.

Single 1-*lb. Jar Extracted Honey.*—1st, Rev. J. R. Bradshaw; 2nd, Rev. W. Head, Brilley, Hereford.

Observatory Hive, with Bees and Queen—1st, W. Dixon; 2nd, W. Chester, Goole.

Interesting and Instructive Exhibits.—1st, W. Dixon; 2nd, W. Chester.

MEMBERS' CLASSES.

Three 1-*lb. Sections.*—1st, Mrs. Remmer, Knedlington, Howden; 2nd, E. Wainman, Hook.

Six 1-*lb. Jars Extracted Honey.*—1st, T. Earl, Creykes' Sidings, Rawcliffe Bridge, R.S.O.; 2nd, A. Woodhead; 3rd, W. Chester; 4th, Mrs. Remmer.

Three 1-*lb. Jars Granulated Honey.*—1st, A. Woodhead; 2nd, W. Chester.

Beeswax.—1st, T. Earl; 2nd, W. Ramsey, Skelton, Howden.—A. WOODHEAD, *Hon. Sec., Goole.*

BEDFORDSHIRE B.K.A.

A very successful demonstration was given in Wrest Park, Silsoe, Beds, on August 5 (Bank Holiday) in connection with the annual show of the local Horticultural Society.

In a bee-tent, provided by the Beds Beekeepers' Association, Mr. L. H. Smith, of Elstow, near Bedford, had prepared some stocks of bees in skeps and frame-hives, together with appliances for an object lesson in bee management.

After explaining the good points of stocks in skeps, he showed how to incorporate them in a frame-hive, and the advantages of having moveable combs, particularly where an extractor could be brought into action.

The actual work of driving the bees was eagerly watched, especially when the queen was adroitly captured, put in a glass cage and passed through the tent for examination by the company. The bees were next returned to the stock hive. A bar frame hive was next opened, and eggs, grubs, sealing of brood, &c., were pointed out, and much valuable information was given on general care of stocks.

There was a very good attendance, much interest was evoked, questions were freely asked and answered.

The Flower Show Committee were most kind in giving assistance in erecting the tent, and the Beds. B.K. Association are to be congratulated upon having organised so satisfac-

tory a demonstration of modern methods of bee-keeping—GEO. E. HOPKINS, Hon. Treas., Beds B.K.A., *Turvey, Bedford.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office,* 17, *King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4479.] We are now in chill September. The shortening days—when the evenings close in with but little twilight, and darkness so soon follows the setting of the sun—should call the attention of bee-keepers to the fact that whatever they have to do in the apiary should be taken in hand without delay. This is important if the bees are to have a period of rest before the commencement of winter, as they should.

Feeding and Re-queening.—If feeding is required it should be started at once and the food given as rapidly as the bees can take it down. If re-queening is intended, do not leave this operation over till the end of the month. Procure your queens and introduce them as early as possible, and thus breeding will be started and the colonies go into winter quarters with a goodly proportion of young bees. These young bees may prove the mainstay of the colony next spring, and at the same time indicate the prolificness or otherwise of the queen introduced.

Showing Honey, and Hints to Secretaries and Committees.—Every show-committee and secretary, when getting up an exhibition of honey, hopes to have the classes well filled. As a rule, three prizes are offered in each class, and the managers are jubilant when the entry fees nearly cover the prize money offered. Bee-keepers who enter the competition also each hope to win. Well, now let us count the cost of the matter to the exhibitor:—First we have entry fees; second, railway carriage; and third, return railway carriage for goods returned. The first two are reasonable; the last item is the item which raises a grumble. Let me give a case in point: Last week I sent three small boxes of exhibits to Chester. Carriage to Chester cost me 2s. 2d. So far, well and good, but the same three boxes came back promptly (very well packed, no damage), but the railway charge for return car was 5s. 11d.! Now I ask why this difference in cost for outward compared with the cost of return journey? So far as I could gather it was because some one had pasted a red ticket above my conspicuous "Don't jar" label, and this red ticket was marked "Glass"! And for this word the railway company at once charged 50 per cent. beyond the cost of sending an ordinary parcel.

Whenever I send honey to a show it is always at "owner's risk"—*i.e.*, at half rate—but on its return it is invariably charged full or ordinary rate, which is double. I would therefore impress on those who superintend the return of exhibits—requiring to be despatched per rail at the close of a show—the importance of having exhibits sent at *half rate.* I have taken the trouble in some few instances to fill up a half-rate railway consignment note and tacking same under the address label; but somehow these have not been used. I contend that every possible consideration should be given to exhibitors, and that the steward of department, or whoever has charge of seeing "returns" despatched, should see to these matters; by so doing they would encourage bee-keepers who were not successful this year to enter another season, but when these big sums are charged for small parcels it acts as a deterrent to the exhibitor next year.

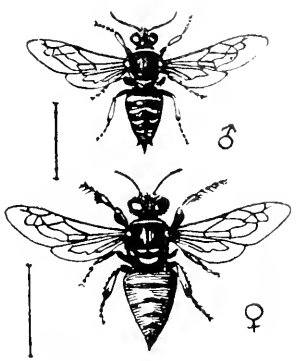
Section Racks.—I am glad to find so good a bee-keeper as "D. M. M., *Banff*" (4475), has broached the subject of Crates *v.* Racks. His ideas exactly coincide with my own. Here at home we always call the receptacles in which our sections are placed on the hives "crates"; my good wife says she has been getting the crates ready to-day! Are you going to put any crates on to-day, William? And if I want more new ones I write to appliance-dealer, make me so many crates, and if we look through the catalogues I believe all makers term them crates. If we use the word crate in writing to B.J. it invariably emerges as "rack," though why our Editors should consider it the most suitable or expressive word or name for the article I know not. When supers were first made sectional the boxes or sections were held together by wire, rubber bands, or by thumbscrews at the sides on strips of wood. I admit it was then simply a rack, and that was, in my opinion, a correct name at the time, but now the sections are placed inside the slated bottom-box I consider the word crate a far more correct name for the receptacle than "rack," therefore I hold up both hands for "crate."—W. WOODLEY, *Beedon, Newbury.*

[The question raised by our friend "D. M. M." was not lost sight of, and we hope to deal with it fully ere long. Nor do we despair of converting not only our two contributors but appliance dealers and all others concerned to the view we hold as to which is the more correct term.—EDS.]

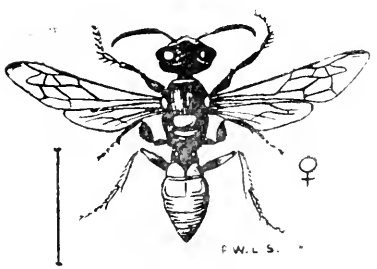
THE SOUTH AFRICAN "BEE-PIRATES."

[4480.] I have examined the specimens of the "bee pirates" forwarded from South Africa (*vide* Mr. Martin's letter on page 334). They all belong to a group of sand-wasps, the females of which prey on various insects with which they provision their nests. The nest is usually at the end of a burrow in sandy ground, and contains the female sand-wasps' dead or paralysed victims, which subsequently become the food of her young. Six specimens in all were sent, and on examination they were found to include two distinct kinds of sand-wasps, five of them belonging to genus *Palarus*, the other one being a *Philanthus*. All the *Palarus* seem to be of one species, there being three males and two females. The single *Philanthus* was a female.

I have made some drawings of the South African "bee pirates," which will enable Mr. Martin to identify the different kinds. It will be seen that the *Palarus* differs considerably from the *Philanthus* in general appearance, and also in the neuration of the wings. In the male *Palarus* the extremity of the abdomen is tridentate: in the female it is sharply acuminate, or pointed.



PALARUS



PHILANTHUS

SOUTH AFRICAN "BEE-PIRATES."

The genus *Palarus* is somewhat closely allied to *Philanthus*, and although fairly well distributed over the tropical world, it does not occur in Britain, and there is only one European species—*Palarus flavipes*. Mr Edward Saunders has very kindly given me some information about the prey of *P. flavipes*. He says that Kohl, quoting from Dufour, states that in a nest of *P. flavipes* there were found eighteen species of *Hymenoptera*, including several wild bees, but no honey bees. Most of these were insects about the same size as, or larger than, honey bees, and many quite as formidable; and Mr. Saunders thinks that honey-bees might be equally acceptable to the *Palarus*.

Philanthus, on the other hand, is a common and widely-distributed genus throughout the world, and there is one British species (*P. triangulum*) which has the interesting fact connected with it that it is the only British sand wasp which makes a practice of provisioning its nest with honey bees. This insect has of late years become exceedingly rare. It used to occur in large numbers in the Isle of Wight, but there have been no recent captures in England, except one male two years ago at Folkestone. Mr. Saunders says, however, that he saw it pretty commonly in Jersey this July, but he was too early to see the females with their prey.

In making an attempt to destroy these pests, it seems to me the only way of setting to work would be by endeavouring to destroy their nests. As sand-wasps are solitary in their habits, it would be difficult to do this on a large enough scale to be of any practical value unless they nested gregariously, as the labour in searching for isolated nests would be too great to be worth while. Mr. Saunders says that though the *Philanthus* does not actually colonise, many nests can no doubt be found pretty close together in places where the insect is abundant, and this is also likely to be so in the case of *Palarus*.

In view of the habits of these sand-wasps I cannot understand how your correspondent managed to find any males at all, as it is probably only the females which would attack and carry off bees.

I remember having received from you about two years ago some specimens of "bee pirates" from South Africa, that were stated to have been caught preying on honey bees, and I found them to be referable to the genus *Palarus*. From the evidence before us, there seems to be still a question as to which is the true offender, though, personally, I feel pretty sure that the females of both *Palarus* and *Philanthus* are "bee pirates"; but I should like to ask, Where were the three males of the *Palarus* taken?

It is quite likely that other sand-wasps allied to these would also prey on bees in South Africa, and it would be exceedingly interesting and instructive if your correspondent would be so good as to send over a good many more specimens of these depredators caught in the act of carrying off the bees. The nests of these insects might be searched for on sandy slopes not far from the hives.

The bunch of cocoons sent with the specimens proves on examination to be that of a wax moth, and has no connection with the "bee pirates."—F. W. L. SLADEN, *Ringwould, near Dover, August* 27.

A DAY AT THE MOORS.

[4481.] As we are in the midst of the heather season, the following short description of a day on the moors may possess interest for brother bee-keepers: Mounting our bikes, the run of six or seven miles to the moors only occupies a short time, instead of the weary old tramp of several hours' duration. Travelling pleasantly along against a gentle breeze, we were conscious of such a smell of honey from the heather as is only felt when both weather and heather combine. We were soon alongside the bees, and were told to be careful, as, when working like this, they would follow for 400 or 500 yards to drive us off. Standing between the hives, and having the best of the moor in front of us, we beheld a perfect cloud of bees, from over forty strong stocks, as busy as bees only could be.

Before being able to "veil up," I became a target for three "shots" from "our friends the enemy." But I hope to be repaid for this bit of offence on Wednesday next, when I expect to take my first "lift" of heather sections. Should the weather keep favourable we are expecting a splendid crop. Having had a look at the bees and got the usual baptism of fire, we started for a ramble over the moor, and as far as the eye could reach, to north, east and west, nothing but hills and dales of purple heather could be seen—the air scented with the perfume of the ling, the mass of *Erica vulgaris*, varying from purple to pure white. I enclose you a few sprigs, as the moor-farmer tells us the white heather always brings good luck. The "bee-ling" is now at its best, spotted here and there with large patches of "crow-ling" (*Erica cinerea*) and smaller patches of the beautiful pink waxlike "wire-ling" (*Erica tetralix*). I have heard several complaints to-day (August 19) from moor-men about bees doing badly in several places, but I think it is through expecting too much too early in the season, as the present time weather and other favourable conditions ought to help considerably towards heavy supers. When all is safely packed by and the snowflakes flying, I hope to give the other end of the tale. Wishing every success to your valuable journal,—ERICA ALBA, *Pickering, August* 20.

DESTROYING WASPS' NESTS.

[4482.] Referring to the question of destroying wasps' nests mentioned in your columns, there is no need to use either sulphur, carbon bisulphide, or cyanide of potassium. A rag saturated in common turpentine and *not* lighted is sufficient. It is only necessary to wait till the wasps have retired for the night; thrust in the turpentined rag and stamp a turf over the mouth of the hole. In a few minutes, or as soon as the "hum" ceases, the nest may be dug out, or it can be left till morning; indeed, I am not sure that the nest requires digging out at all if the rag has enough turps on it. I once took a hornets' nest from the roof of a summer-house by exposing it to the fumes of turpentine in the same way. I made a kind of "hod" such as is sometimes used by bricklayers' labourers, and put rags all round the edge, and then held it under the nest till the hornets had succumbed to its effects.

This is the most simple and least dangerous method I know of, and it is quite effectual.—F. V. HADLOW, *Buxted, Sussex.*

SOME ESSEX NOTES.

[4483.] *Good News about Honey.*—I have just been reading in a leading London weekly newspaper of a celebrated English physician having asserted that the increased height and weight of Englishmen and Americans in the last half-century is chiefly due to the increased consumption of sugar. In confirmation of this opinion the physician referred to cites the fine health of date-eating Arabs and the sugar-cane-eating negroes. In the same paper it is stated that the average duration of human life has increased during the last 100 years in the rate of three years for men and three and a half years for women. Now while I consider this good news in a general sense, as an advertisement it seems to me equally good for honey, and whenever the question, "What is the best form in which to take sugar?" is raised bee-keepers need have no hesitation in replying, "Take honey."

Foul Brood in Skeps.—Mr. Woodley, in B.J. of August 22 (page 834), writes on this subject. For myself, I have never found foul brood in a skep owned by any man who could be properly called a skeppist, *i.e*, one who keeps bees on ancient lines, with the "brimstone pit" at the end of the last act. But I have, and still do, every year find foul brood in skeps owned by some whom I suppose we must call "modern bee-keepers." I usually have one or more jobs of removing bees from the roofs or walls of dwelling-houses, or other buildings, every autumn, and though in some cases the combs have been known to be twenty or more years old, I have never found foul brood in them.

Wasps.—Unlike Mr. Woodley, we have almost a plague of wasps in this immediate neighbourhood, and there is very little fruit for them. But nothing comes amiss to the wasp. One day recently I saw wasps eating a sparrow, and the next day I saw a large number of wasps making a meal off a frog. I went the other day to take a nest of bumble-bees, and found the nest destroyed. There was evidence that the destroyers were wasps.

Stories both Amusing and Ridiculous.—When Press-cuttings reporting the numerous "bee-stories" reach the B.B.J. on their way round the papers, I think it would be a good plan for our Editors to write to some reader of the B.B.J. who is known to be living near the place where the story is said to have been floated, to find out, if possible, whether it is fact or fiction. Many of these silly stories have no reality in them at all, and others are so exaggerated that serious injury is done to bee-keepers in the minds of those who are ignorant of the subject. Some people are amused by these stories, and some papers will circulate anything, however ridiculous.

Congratulations.—Hearty congratulations to the Editors of our JOURNAL on the issue of the thousandth number of the B.B.J., on August 22. We get our JOURNAL to-day for the modest sum of 1d., but it does not seem long ago since the B.J. was 2d. per week. The time when it was a fortnightly at 3d. is further back, while its original price of 10½d. per monthly number is beyond my day; but our 1d. copy is evidently going to "stay."—W. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

THE POISON AND STING OF THE HONEY BEE.*

A REVIEW BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

During my stay in Naples, the author of a paper with the above title, Dr. Joseph Langer, was good enough to send me a copy for perusal. The subject chosen as a theme for research is of such extreme interest to bee-keepers generally that I propose to give a detailed account of the results of Dr. Langer's work. I have already referred to it in "Reviews of Foreign Bee Papers" (B.B.J.) some months ago.

It has always been more or less a matter of contention whether formic acid is or is not the chief constituent of the poison of the bee, and we are indebted to Dr. Langer for some light on this subject.

In fact, may we not ask, have the chemical properties of the bee's poison ever really been decided on to the satisfaction of investigators? If the reply is not absolutely in the negative, we must at least own that our knowledge on this point is very imperfect, and that much must be done to fill up the gaps at present existing. One great difficulty in the way of the investigator is the extremely small quantity of poison obtainable, and the immense number of victims which must be sacrificed to obtain what, after all, is only a very inadequate supply for the use of scientific investigation. Dr. Langer has, however, overcome this difficulty to some extent. He adopted the following methods:—"It was of the greatest consequence to procure the pure poison as it exuded from the sting of the bee, and to this end the bee was carefully taken between the fingers and gently pressed, the drop being collected by means of fine capillary tubes.

"An approximate idea of the quantity of poison, also of the dry residuum, may be obtained if a bee be made to sting filter-paper which has been previously well dried and weighed. A solution of the poison is prepared by macerating the freshly extracted bee-sting and poison-bag in water, and passing the liquid thus procured through filter paper.

"To secure the poison in larger quantities several thousand poison glands and stings were collected in 96 per cent. alcohol. This being filtered, and the dry stings pounded in water and added to the preparation. After changing the 96 per cent. alcohol two or three times, and then using pure alcohol and æther, after the evaporation of the latter a whitey-grey substance remained, which came off in flakes from the bottom of the vessel in which it stood, and this substance contained poisonous matter and albumen."

The following details are given regarding the literature of the bee poison and relative matters:—

"Will, engaged in the examination of the hairs of the procession caterpillar, came to the conclusion by analogy, and considering the similar conditions of life of ants and bees (as also John Wray), that they contained formic acid as a substance capable of acting poisonously."

Paul Bert and Cloëz were the next to consider the subject, and to give us their opinion that the poison of *Xylocopa violacea* contained an organic base which stands in connection with an unknown acid.

Dünhoff calls the secretion of the aculeata a solution of albumen in formic acid. As to the nature and character of the poison itself (apart from any admixed properties), some interesting facts are given which appear of more importance than any hitherto discovered. "The pure poison is a clear fluid with an acid reaction, tasting bitter and with a fine aromatic odour.

"Under the microscope certain drops are to be observed floating in the fluid, various in size, strongly refracting the light and of a fatty nature. On evaporation the pure poison leaves a sticky, varnish-like residuum which, dried at a heat of 100 deg., cracks and peels off in flakes.

"The pure poison is easily soluble in water, and leaves about 30 per cent. dry residuum, which is soluble and possesses undiminished poisonous properties. The small quantity of poison in a single bee compels the use of large quantities of material. As many as 120,000 bees have been necessary for the research of the last four years. Pure poison contains no bacteria, and hinders the growth of bacteria,

* Bienengift und Bienenstich Von Med. Dr. Joseph Langer in Prag. Sonderabdruck aus den Sitzungsberichten des Deutschen Naturwissen-medicin. Vereines für Böhmen. "Lotos," 1899. No. 8.

without, however, being able to kill them even after days of contact."

In order to prove that it is on no account the presence of formic acid which causes the poisonous effect, Dr. Langer brings forward the following :—

"(1) Watery solutions of the pure poison, although having no acid reaction, as also when the poison preparation has been treated by carbonate of soda and made slightly alkaline, still produce conjunctivitis when dropped into the eye of a rabbit. (2) If several hundred freshly-taken stings are distilled, the acid result, containing the formic acid, never shows the typical reaction in the eye of a rabbit, while the stings free from the acid are able to set up the characteristic irritation. (3) Stings perfectly dried, if the skin be pierced by one, produce the same effect as if fresh, which, when we consider the fluid nature of formic acid, cannot be ascribed to its agency. (4) Injections of pure formic acid only produced a slight eruption in the arm, which soon passed off."

In addition to he foregoing, Dr. Langer's experiments as to the susceptibility of human beings show that the majority of persons are affected by bee poison, and only very few are proof against it.

The author mentions three stages during the process of inflammation which are temporary and easily distinguished : — 1. The progressive condition : From the moment of the bee-sting, and lasting one hour and a half to two hours, with the following symptoms—pain, the appearance of a speck of blood, irruption and swelling of the skin. 2. The stationary stage (closely connected with the first, and is characterised by more or less spreading of the swelling) : Lasts one day to a day and a half. 3. The retrogressive stage : This is also closely allied to the last, and often lasts eight to fourteen days, the actual time being known by the receding of the swelling and lessening of the irritation ; the place where the sting entered becomes more evident at first and then slowly disappears.

Characteristics of the artificially procured immunity to bee poison are as follows :—

(*a*) No appearance of nettlerash and other principal symptoms, even after numerous stings, in persons previously susceptible.

(*b*) Changes in the appearance of local inflammation, which affect the duration and the size. Lessening of all the above three stages in length and intensity.

A still higher degree of immunity is shown by the entire disappearance of the second stage, so that with these persons the third stage follows directly on the first. The best method of destroying the poison, or, at least, to weaken its effects, is considered at great length by Dr. Langer, and after mentioning various details as to several reagents, he sums up the subject as follows :—

"On the strength of the discovery of Celsus on the harmlessness of snake poison when taken into the healthy stomach, the same experiment was made with the bee poison, and the same results obtained. This being proved, the different gastric juices ('pepsin, pancreatin, diastase, papayin, labferment') were brought to bear upon the poison, and each of these showed the power to greatly weaken its effects."

From these experiments it was found that a certain quantity of pepsin could neutralise entirely and instantly a certain quantity of bee-poison ; but, on the other hand, the pepsin loses some of its properties by contact with the poison.

It is remarkable to notice the wonderful quickness with which pepsin (at a given strength) works upon the poison. Still, this is, as far as is known, the first time the reaction between poison and reagent has been observed.

There are two ways of treating the stings of bees, wasps, &c. One outward, as cold compresses with water, vinegar, &c. ; the other seeking to neutralise the poison at the seat of the injury by the application of liquid ammonia, waterglas, and other alkalies. Sucking or pressing the wound is as useless as cauterisation with the heat of a cigar or with red-hot wire.

It is an old and well-known fact that strong liquid ammonia is considered one of the best remedies. It will, therefore, be doubly surprising to many to read Dr. Langer's remarks on this subject, showing, as they do, that ammonia is not a remedy at all, but, on the contrary, an irritant and injurious. Here are his own words :—

"The old medical and bee-books give ammonia as the best remedy for bee-stings as neutralising the 'formic acid.' Admitted. It must, however, be remembered that the precipitate of ammonia is of a poisonous nature, and if introduced into the skin only tends to produce a more protracted working of the poison."

He goes on to say that chloroform and hypermanganate of potassium are the best and most rational antidotes, founded on a scientific basis.

These, to be really effectual, should be introduced under the skin with a hypodermic syringe. Here the question arises, Must the remedy be applied at the spot itself ? The space at disposal in the BRITISH BEE JOURNAL is such that I cannot go on indefinitely referring to the many interesting details to which the author refers.

Those who can read German cannot do better than obtain a copy and study the work for themselves ; by so doing many new and hitherto unknown matters will be brought to their notice. The article in question, having first appeared in 1899, cannot be considered as new ; as, however, I have seen no notice whatever, in either the BRITISH BEE JOURNAL or the *Record*, with the exception of the short

paragraph to which I have already referred, and I considered that the subject would doubtless find some among your readers who would deem it worthy of attention.

WEATHER REPORT.

WESTBOURNE, SUSSEX,

AUGUST, 1901.

Rainfall, 1·64 in.
Heaviest fall, ·73 in., on 14th.
Rain fell on 11 days.
Below average, ·80 in.
Maximum Temperature, 79°, on 19th.
Minimum Temperature, 45°, on 28th.
Minimum on Grass, 32°, on 28th.
Frosty Nights, 0.
Sunshine, 265·9 hrs.
Brightest Day, 21st, 13·8 hours.
Sunless Days, 0.
Above average, 51·6 hours.
Mean Maximum, 69·6°.
Mean Minimum, 53·2°.
Mean Temperature, 61·4°.
Above average, 1·7°.
Maximum Barometer, 30·60°, on 20th.
Minimum Barometer, 29·62°, on 26th.

L. B. BIRKETT.

Queries and Replies.

[2712.] *Ravages of the Wax-moth.*—Will you kindly advise me in the following case: I am at times called in by a clergyman to assist him with his bees, as they are prone to resent his intrusion on their domiciles in an unpleasant way for the reverend gentleman. Two years ago I was called in to assist, and left him with eleven strong stocks for wintering. In 1900 I did not make my usual call. In the spring of the present year I was again asked to call, and found that the bees had done nothing in 1900. However, I examined all his hives and found six of the stocks had been completely destroyed by the wax-moth. The other five colonies were clean and strong. I supered some of them, and early this month I was sent for to remove the honey, and on arrival I found three of the five had been quite ruined by the moth, nothing but a mass of larvæ, cocoons, moths, and débris remaining. I advised that a bonfire be made of the hives and frames in order to exterminate the pest. This was done, and there are now only two stocks. Both are strong in bees; but the question is, will the moth attack them as it did the others? I should say grubs are as thick as a wheat straw and about 1 in. long. Several of the hives were made from old boxes with lots of odd corners and crannies in them for the moths to deposit eggs in. Did I do right in advising destruction, or was it possible to deal with them in any other way?

My own bees have done very well this year; no swarms and a very good harvest of honey. I have captured a stray swarm or two during the past season.—T. ADAMS, *Ely, near Cardiff, August 26.*

REPLY.—The wax-moth you have had to deal with is the genuine *Galleria cereana*, and its extensive ravages in the apiary referred to afford evidence of what all experienced bee-keepers are well aware of, viz., that colonies of bees not well and thoroughly looked after and kept clean are soon ruined if this bee-enemy is allowed to get the upper hand. The worm or grub is so easily distinguished from the larva of the small moth—so common in weak hives—that once seen it is never forgotten; not only so, but a careful bee-keeper will not rest a day after he has evidence that the larvæ of *G. cereana* are hatching out till he bundles the pest out root and branch. It is pitiful to read of an apiary of "eleven strong stocks" reduced to two simply from your not having paid the usual visit of inspection. We can only advise more frequent examination than the reverend owner of the bees seems to think necessary. There is no remedy or preventive that will keep the moth away, nothing but killing the larvæ as they are found.

[2713.] *Re-queening Stocks.*—I have a hive of black bees, of which the queen is old and no longer prolific, and I am anxious to supersede her by the introduction of a young Italian queen. I shall not be able to do this before the middle of September. Would this be too late, or do you recommend waiting until next spring?—CHAS. F. URQUHART, *Ingatestone, August 2.*

REPLY.—It is better to requeen now than defer it till next spring, seeing that the Italian queen will have settled down in her new home before winter sets in. Mid-September is not too late and there will thus be no check next year.

[2714.] *Utilising Unfinished Sections.*—As a novice in the art of bee-keeping there are many difficulties which present themselves to me, which other beginners must also encounter. Your advice on some of them will greatly oblige. 1. I have about thirty sections of honey which are not sufficiently well finished to be marketable, and I do not want to use them in my own household. How shall I utilise them to advantage? 2. I have about a like number of sections which are not sealed. What had I best do with these? 3. On examining one of my hives a day or two ago I observed a grub or larva about 1 in. in length, and similar in colour to a silkworm. It was making its way along the top-bar of one of the central frames in the brood-chamber, and then began to disappear down by the combs. I killed it with a scraper. Was this a larva of the wax-moth? The hive is a new one, in which a swarm was hived early this summer, and the bees have produced for me some 30 lb. of super honey. I had taken the precaution of placing naphthaline on the floor-board when the swarm was hived.

There are probably other grubs of the same description in the hive, and so I ask: How can they be destroyed without injuring the brood on the same frame? and how can I ascertain whether or not there are worms in the other frames? 4. Do you recommend the transparent celluloid quilts next to top-bars of frames, with, of course, warm ones over all as well, for autumn and winter? I think they would enable one to see how the stock is getting on without so much reducing the temperature in the winter-time.—W. ALFRED DAWSON, *Cobham, Surrey, August* 2.

REPLY.—1. Extract the honey, then return them to the bees for clearing up before storing the combed sections away for use next season. 2. These had best be utilised at once for household use as the honey will not keep well if extracted. 3. Read reply to T. Adams. 4. Some bee-keepers like the transparent celluloid quilts very well; others cannot tolerate them. Personally, we never use them.

[2715.] *Dealing with Foul Brood.*—Foul brood being established throughout my apiary, I am advised to deal with it some time during the month of September by (1) transferring all the bees into new hives, or (2) returning the bees to the old hives after the latter have been sterilised by fire; then to feed the bees well with sugar-syrup till the new combs are built out. Will you kindly tell me if the mode and time suggested is the best or a proper one to adopt?—THREE ACRES, *Berkhamstead.*

REPLY.—1. Either of the plans proposed will be useful in effecting a cure if well carried out; but in view of so large an operation as dealing with a diseased apiary, it is very advisable to provide yourself with a Guide Book that deals fully with the subject.

[2716.] *Bees Deserting Hive after Transferring.—Disputed Ownership.*—I bought a "condemned" skep of bees, and after having had them for a week transferred them to a frame-hive. But the bees refused to stay in it. In fact, they deserted, and clustered on a tree outside our premises. From this tree a person has in my absence carried off the bees, and either sold or given them away. The question is, Could I recover their value? I look at it this way. They were a colony or stock of bees which I had purchased. Had it been a swarm, no doubt I should have lost them through being away, and thus failing to hive the bees; but I think the present case is different. I will be glad to have your opinion. —G. H. B., *Oxford.*

REPLY.—We do not think you can substantiate a legal claim either to the bees or their money value. By deserting the hive as stated they became practically a swarm. A swarm deserts its hive to seek a new home; and if the owner of the hive from which it issues is not at hand to follow and claim the bees as his without losing sight of them, he forfeits his claim, and the bees are considered as "vagrant" and the property of any one who can manage to secure them.

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Revue Internationale d'Apiculture (French Switzerland).—"*Apiculture in Chili* (*Serena*). —Each country presents some peculiarity in the culture of bees; one of the most remarkable here is the swarming fever, which is considerably developed. Is it the mildness of the climate or the length of the honey harvest which causes this? In any case, with the largest of hives and every preventive, it is impossible to prevent it.

There seems, however, no reason to object to swarming, because of there being plenty of time to enable even second swarms to take full advantage of the honey-flow and produce a good harvest. Swarming begins in September, while the main honey-gathering seldom commences before December or January. One hundred and sixty colonies were transferred to bar-frame hives, and the same year 340 swarms issued from the stocks so transferred, all of which constructed their combs without the help of comb-foundation. The swarms and parent hives (500 colonies in all) produced 36,400 lb. of honey.

The plants which produce the most honey here are horehound, lucerne (which yields nectar in considerable quantities), wild radish, and wild turnip. In the south of Chili there are other honey-yielding trees and plants, but here the horehound gives the best results. In one place ninety-five colonies of bees gathered 18,000 lb.

Apiculture here is an important industry, all the honey being exported. The native Chilian does not eat honey; he considers it only as a medicine, to be taken if the doctor orders it, and discontinued if one is feeling well. The price here is about £1 10s. per 200 lb."

Deutsche Illustrierte Bienenzeitung (Germany).—*Weight of the Bee's Egg.*—In an extraordinarily sensitive scale used by apothecaries, in which the weight of queens and worker-bees had been tested, thirty worker-eggs were placed and weighed exactly 5 milligrammes; then thirty drone-eggs, with precisely the same result. The weight of each egg is therefore $\frac{1}{6}$th milligramme.

Practischer Wegweiserm Würzburg.—The hygienic value of queen vegetables is well known, and many a man might save himself a journey to Kissingen, Ems, Marienbad, &c., if he habitually took plenty of "greens," especially salad. This is very nourishing and strengthens the body. It has also a purifying effect upon the blood. It is a great improvement when the vinegar with which the dressing is made is mixed with honey instead of sugar; those who have once tried it will never again eat salad without honey. Still pleasanter to the taste and more wholesome than vinegar is citric acid—procurable at every chemist's in crystals—to be dissolved in water as required, according to taste.

Bee Shows to Come.

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market. (See page v.)

September 10, at Cartmel, Lancs.—Honey show under the auspices of the Lancs. B.K.A., in connection with the show of the Cartmel Agricultural Society. Three open classes for honey. Schedules from W. Cragg, Cartmel, viâ Carnforth.

September 11 and 12, at Derby—Derbyshire B.K.A. twentieth Annual Show of Hives, Bees, and Houey on the show ground of the Derbyshire Agricultural Society.

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades. (See page v.)

September 28, at Jedburgh.—Roxburghshire B.K.A. Annual Autumn Show of Bees, Hives, Honey, &c. Twenty-three classes (including eight open classes) for Bees and Bee Produce. Schedules from Thos. Clark, Pleasants, Jedburgh, N.B. **Entries close September 24.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square London, W. **Entries close September 9.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. C. (Bristol).—*Foreign Honey Importers—How to Clean out Combs.*—1. We cannot give names and addresses of importers of foreign honey. 2. Partly filled combs removed in autumn should have their contents extracted before storing away for winter. It is done by placing them on strong stocks and inserting an empty box or super between them and the hive below. The bees will then carry the honey down to body box below. 3. Pollen-clogged combs are useless for any purpose and should be broken up.

A. Robertson (Dumbarton).—*Observatory Hives.*—The only places we know of where illustrations and descriptions of observatory hives can be seen are the catalogues of dealers in bee-appliances.

A Perthshire Bee-keeper (Limcarty).—*Bee-houses.*—We will endeavour to give an illustration of a bee-house in an early issue, as desired.

A. Sandys (Kingston-on-Thames).—*Foul Brood among Wasps.*—We hope to deal fully with this question next week, having obtained some important information on the subject, which needs dealing with at some length.

Pendle Forest (Lancs.).—*Driven Bees Building Queen-cells.*—It is a certain sign that the queen has "gone" if bees are now building queen-cells.

Suspected Combs.

X. Y. Z (Edinburgh).—The dead brood in comb is "chilled" only, but we find traces of foul brood of old standing in several cells. It seems to be a recrudescence of the disease in the present case.

St. George (Sussex).—Comb is slightly affected with foul brood. The symptoms point to the disease as being kept under by the use of preventives.

Honey Samples.

Ayrshire (Kilmaurs).—Both samples are very good, No. 1 being an exceptionally fine honey. Either are fit for any show, and No. 1 will, in our opinion, be hard to beat.

F. S. H. (Surrey).—Sample is very good in colour, very fair in flavour—but a little peculiar—and of excellent consistency. The source of the peculiar flavour is unknown to us.

*** *Replies to several queries and letters on hand will appear in our next.*

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SECTIONS and EXTRACTED HONEY FOR SALE. Good quality. Ed. Bailey, Cheveley, Cambs. I 4

40 DOZ white CLOVER SECTIONS, 9s. doz. First quality. Bennison, Scorton, Darlington. I 6

DRIVEN BEES, ready to put on rail free, 4s. per lot. W. H. Higley, 15, Mason-street, Kidderminster.

FOR SALE, 20 HIVES of BEES as they stand. Davenport, Sunderton, Shrewsbury. H 95

WANTED, DRIVEN BEES in Exchange for Appliances. Guaranteed. Guthrie Bros., Alloway, Ayr. I 7

GOOD CLOVER SECTIONS FOR SALE, well-filled and clean, 8s. per doz.; 2nd class, 7s. Also Extracted. Garnett, Well, Bedale, Yorks. I 9

WANTED, FOUNDATION ROLLER, second-hand; cash or exchange Treadle Fretsaw, new. Holmes, Brunswick-road, Plymouth. H 92

IN Time for Driven Bees. FOR SALE, several Bar-frame HIVES. H. Kitching, Mellwood, Sharrow, Sheffield. H 93

STRONG HEALTHY STOCKS in straw skeps, 1901 Fertile Queen, 11s. 6d.; Fertile Queens, 2s. each. W. Woods, Normandy, Guildford. H 99

EXCELLENT CLOVER HONEY, 28-lb. tins, 6½d. lb.; fine Heather Blend, 7½d. Tins free. Sample, 3d. Lancelot Quayle, Glenmay, Isle of Man. I 3

NUCLEUS STOCKS on 3 Frames; young Fertile Queens, 8s. 6d. William Sole, 105, Graham-road, Wimbledon.

PURE EXTRACTED ENGLISH HONEY, first grade, 15 gross, in nominal 1-lb. screw-cap bottles, £4 4s. per gross; 3-gross bottles, reduced price. Noble, near Sandy, Potton, Beds. I 5

Prepaid Advertisements (*Continued*).

HEALTHY DRIVEN BEES, 1s. 3d. lb., with Queen; cash with order. Well-rooted Strawberry Plants, "Sir J. Paxton," 2s. 100. WOODS, Normandy, Guildford. I 1

WANTED, 3 STOCKS of BEES, healthy, in Standard Bar-framed Hives, in exchange for Organ Accordion by Busson, in good order; approval. J. WADE, 23, Craigton-road, Eltham Park, Kent, S.E. H 97

35TH SEASON.—FERTILE QUEENS, supplied in improved queen-boxes, with plenty of food to last 14 days. Price for September, 4s. 6d. each. W. PEYOR, Breachwood Green, Welwyn, Herts. H 98

HEATHER HONEY in Shallow-frames, 8d. per lb., 1d. each allowed if frames returned; Wax Extractor, block tin, cost 14s., price 9s., equal new. WILLIAM WRIGHT, Pickering. I 2

WANTED to HIRE, OBSERVATORY HIVE and BEES for one week. Bees will be fed and cared for. State terms, E. N. BROWN, 49, Pershore-road, Birmingham. H 96

HEATHER HONEY LABELS, 9d. 100., 3s. 1d. 500. GUEST, King's Norton. H 84

DRIVEN BEES FOR SALE. With Queen, 4s. Also several Stocks in skeps. PETERS, Banstead. H 81

HEATHER HONEY in sections and shallow-frames. Address, "A." *Bee Journal* Office. H 91

SPLENDID NATIVE and LIGURIAN 1901 tested QUEENS, 5s. each. GUTHRIE, Alloway, Ayr. H 80

HONEY IN BULK WANTED. Send sample, with price per cwt. carriage paid. CASTLE'S, 23, Oxford-street, London, W. H 83

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

TESTED ENGLISH QUEENS, bred from selected strain, 5s. each, in introducing cage. W. WOODLEY, Beedon, Newbury.

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BEERETON, Pulborough, Sussex.

GENUINE IMPORTED ITALIAN QUEENS.—Purity and safe arrival guaranteed. Post free with Introducing Cage, full instructions for introduction, 5s. 6d. F. SLADEN, Ripple Court Apiary, near Dover. H 25

25TH YEAR.—Choice 1901 QUEENS, in introducing cages, 3s. 9d., delivered; with Swarm for building up, 5s. 6d. Package free. ALSFORD, Expert, Blandford. H 63

TO SELL your SECTIONS try the NEW FOLDING CASES; assorted colours; gold lettering; very effective; 6s. 6d. 100. Sample free. HEWETT'S, Laburnum Apiary, Alton, Hants. H 71

DRIVEN BEES (healthy), 3s. per lot, including queen; also a few strong Stocks in bar-framed hives, complete, 22s. 6d. each. WILLIS, Oakley, Wimborne, Dorset. H 61

EDWARD'S PEDIGREE QUEENS, record-creating, non-swarming strain; autumn-raised, 4s. each, post free, in new introducing cage. Selected Queens, 5s. 6d. Orders now booked. Shrubshill Apiary, Sunningdale (late "Beecroft," Ashford).

FINE PROLIFIC Tested 1901 QUEENS, 3s. 6d. each, post free. Bees 1s. 3d. per lb. for 5 lb. lots or over, Queen included. Guaranteed healthy and safe arrival. Packages to be returned. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. I 8

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

WOOD'S SPECIFIC.—Sure preventive of and alleviative for Bee-Stings and all Insect Bites, &c. Non-poisonous. Sold in bottles, 1s. 3d., post paid. A certain cure for Udder Clap or Sore Teats in cows. 2s. 4d. post paid. Postal orders to WOOD & CO., Manufacturers, Black Hill, Co. Durham. H 40

Prepaid Advertisements (*Continued*).

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

LACE PAPER for SECTION GLAZING. White, 1 in. wide, in three neat patterns, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also LACE BANDS, White, 3 in. wide, lace both sides, 100, 1s. 3d., 200, 2s. 3d., 300, 3s.,; Pink, 3 and 3½ in. wide, 100, 1s. 6d., 200, 2s. 9d., 300, 4s.; Pale Green, 3 in. wide, same price as Pink; all post free. The alterations above are owing to colours and widths being cleared for this season. W. WOODLEY, Beedon, Newbury.

CONFECTIONERS' EXHIBITION,

Royal Agricultural Hall, Islington.

J. S. GREENHILL, Graham-road, Wimbledon, will have a display of **Bees, Honey, and Appliances** for Sale in the Large Hall (ground floor).

(Row T, Stand No. 90.)

LANCASHIRE B.K.A.

QUALIFIED EXPERT WANTED AT ONCE.

£3 per week and Bonus on new Members. Apply, F. H. TAYLOR, Hon. Sec., Birch Fold Cottage, Fallowfield, Manchester.

DAIRY SHOW,

LONDON,

OCTOBER 8, 9, 10, 11.

Prizes for Honey, Wax, &c.

ENTRIES CLOSE SEPTEMBER 9th.

Sec., **WM. C. YOUNG,** 12, Hanover-square, London, W.

CLOSE OF SEASON, 1901.

CLEARANCE SALE.—Having a large Stock of the following still on hand, I am offering at greatly reduced prices—

"Cowan" Extractors	50/-	reduced to	42/6
"Raynor" ,, ...	32/6	,,	28/6
"Gunnea" ,, ...	22/6	,,	19/-
,, Geared	33/-	,,	26/-
Small Wax Extractors	2/6	,,	2/-
Large Round Float Feeders ...	2/6	,,	1/8
Small ,, ,, ,, ...	1/6	,,	1/-
Bottle Feeders	1/3	,,	10d.
Queen Excluders	9d.	,,	6d.
,, ,, ...	8/- doz.	,,	5/6
,, ,, Long Sheets (96×16)	3/6	,,	2/3
,, ,, ,, ,, (96×32)	6/6	,,	4/3
Standard and Shallow Frames	1/3 doz.	,,	10d.
,, ,, ,, ,,	8/4 100	,,	5/6
Sections	2/- 100	,,	1/8
,, Split Top	2/6 100	,,	1/10
,, ,, ,, ...	20 - 1,000	,,	17/-
Smokers	3 - each	,,	2/3
,, (Meadows')	2/6 ,,	,,	1/8
"W.B.C." Ends	4/- gross	,,	2/9
,, ,, extra wide ...	4/6 ,,	,,	3/-
Tough Wood Dividers	10d. doz.	,,	6d.
,, ,, ,, ...	6 - 100	,,	3/6
Metal Dividers	1/- doz.	,,	8d.
,, ,, ...	7/6 100	,,	5/-
Comb Foundation	2/- lb.	,,	1/9
,, ,, Thin for Sections	2/6 lb.	,,	2/1
Super Clearers	2/- each	,,	1/8
Woiblet Spur Embedders ...	1/-	,,	9d.
Section Racks	2/6	,,	1/9
Shallow-Frame Boxes, complete	3/-	,,	2/2
Wire and Net Veils	2/-	,,	1/6
Black & White ,, ...	1/6	,,	1/-
Uncapping Knives	2 -	,,	1/6
"Record" Bee Hives	10/6	,,	9/9
1 gross Lee's Dovetail Frames	19/-	any reasonable offer.	
1 ,, Shallow ,, ,,	,,	,,	,,
Honey Ripeners and Strainers	12/6	reduced to	9/6

W. SHEPHERD, Oxton, Tadcaster, Yorks.

Editorial, Notices, &c.

THE CONFECTIONERS' ANNUAL EXHIBITION AND MARKET.

HONEY SHOW AT THE AGRICULTURAL HALL.

The Confectioners, Bakers, and Allied Traders' Ninth Annual International Exhibition and Market was opened to the public on Saturday last, and will be continued all the week, closing on the 14th inst. It will be remembered that prior to last year the honey competitions were confined to master grocers only, and, in consequence, the interest of bee-keepers in the competitions was naturally limited; but in 1900 the schedule included classes open to British bee-keepers, besides offering other facilities for assisting exhibitors, and a considerable increase in the number of entries naturally resulted. This year the directors, being desirous of still further extending the popularity of the honey section of the Exhibition, made a large increase in the number of classes, and also in the amount offered in prizes. So considerable was the increase in value offered that we fully expected that bee-keepers—with honey of fine quality in abundance in so many parts of the kingdom—would have been more appreciative of the prizes within reach than as it turned out. Some classes were well filled, others very poorly represented—so much so that it would appear as if valuable money prizes might be allowed almost to go a-begging for some one to carry them off.

On the whole, however, the result was a considerable increase beyond last year's show, over 200 entries being received, but this is by no means what we expected to see.

The judging was unavoidably deferred to a rather late hour, and, in consequence, the last classes had to be got through after closing time, when the visitors had departed. We must therefore defer our full report of the show till next week. Meantime, we hope to pay another visit, and have a fuller opportunity of comparing results.

Messrs. W. Broughton Carr, London, and Walter F. Reid, Addlestone, Surrey, judged the exhibits, and made the following

AWARDS.

Honey Trophy, or Display of Honey and Honey Products, staged in suitable form for a tradesman's window (6 exhibits).—1st—£4, with B.B.K.A. Silver Medal and Diploma, Richard Brown, Somersham, Hunts; 2nd—£3, Wm. Woodley, Beedon, Newbury; 3rd—£2, Jas. Lee & Son, Silver-street, Bloomsbury, W.C.; 4th—£1, J. S. Greenhill, Graham-road, Wimbledon; h.c., C. S. Overton, Crawley, Sussex; c, G. W. Kirby, Longwell Green, Bristol.

Twelve 1-lb. Sections (22 exhibits).—1st—£2, with B.B.K.A. Bronze Medal and Diploma, Wm. Woodley; 2nd—£1 10s., G. W. Kirby; 3rd—£1, A. W. Weatherhogg, Willoughton, Lincoln; 4th—15s., S. Bailey, Itchingfield, Sussex; v.h.c., H. G. Little, Eastgate-row, Chester; Wm. Patchett, Caistor, Lincoln; h.c., Burrell Bros., Great Barton, Bury St. Edmunds; Rev. M. W. B. Osmaston, The Parsonage, Goodnestone; c., James Clay, Wellington, Salop.

Twelve 1-lb. Sections of Heather Honey (2 exhibits).—1st—£1 10s., Jas. Waddell, Wooler, Northumberland; 2nd—£1, H. Rowell, Winchfield, Hants.

Three Shallow-Frames of Comb-Honey for Extracting (5 exhibits).—1st—£1 10s., Rev. M. W. B. Osmaston; 2nd—£1, Wm. Woodley; 3rd—15s., H. G. Little; 4th—10s., Richard Brown.

Twelve 1-lb. Jars Light-coloured Extracted Honey (49 exhibits).—1st—£2, with B.B.K.A. Certificate and Diploma, S. Temblett, Andover, Hants; 2nd—£1 10s., Wm. Woodley; 3rd—£1, J. Smart, Andover, Hants; 4th—15s., F. Sandall, Bishop's Waltham; 5th—10s., G. Walker, Windover, Bucks; v.h.c., T. H. Ploughwright, Brackley; E. Oakes, Broseley, Shropshire; F. Hender, Nailsworth, Glos; J. Sopp, Crowmarsh, Wallingford; C. H. Poulton, Buntingford, Herts; W. Hatliff, Thoresway, Caistor; Pease Hankin, Redruth, Cornwall; h.c., H. Rowell, H. G. Little, G. Walker; E. Ainsley, Bishop's Waltham; Mrs. M. Francis, Thruxton, Andover; A. W. Weatherhogg; c., H. Bass tt, Harlow, Essex.

Twelve 1-lb. Jars Medium-coloured Extracted Honey (20 exhibits).—1st—£1 10s., A. Barber, Camberton, Cambs; 2nd—£1, J. Sheppard, Chewton Mendip, Bath; 3rd—15s., Rev. M. W. B. Osmaston; 4th—10s., Richard Brown; 5th—5s., C. Skinner, White Waltham, Maidenhead; h.c, G. W. Kirby, G. Walker; C. Hart, Stamford, Lincs; c., J. Edwards, Callington, Cornwall.

Twelve 1-lb. Jars Dark-coloured Extracted Honey (8 exhibits).—1st—£1, G. W. Kirby; 2nd—15s, C. G. Skinner; 3rd—10s., E. Ainsley.

Twelve 1-lb. Jars Heather Honey (4 exhibits).—1st—£1 10s., Thos. Richards, Church Gresley, Burton-on-Trent; 2nd—£1, H. Rowell; 3rd—15s., Jno. Berry, Llanrwst, N. Wales; 4th—10s., H. G. Little.

Twelve 1-lb. Jars Granulated Honey (6 exhibits).—1st—£1 10s., Richard Brown; 2nd—£1, Wm. Woodley; 3rd—15s., W. J. Norman, Sharpley Mills, King's Lynn; 4th—10s., H. G. Little.

Beeswax (not less than 3 lb.) in Cakes suitable for retail counter trade (7 exhibits).—1st—25s., Jno. Berry; 2nd—20s., R. Brown; 3rd—15s., Jno. Berry; 4th—10s., G. Walker.

Beeswax (not less than 3 lb.), judged for quality of wax only (12 exhibits).—1st, Hugh Berry, Llanrwst, N. Wales; 2nd, Jas. Clay;

3rd, Mrs. Woosnam, Rora, Newton Abbot; 4th, J. S. Greenhill; v.h.c., E. E. Schofield, Chudleigh, S. Devon; h.c., E. Oakes, Church-street, Broseley, Salop; J. Barnes, Burwell, Cambs; c., Wm. Patchett, Caistor, Lincs; Wm. Woodley.

(*Remainder of Report next week.*)

WARWICKSHIRE B.K.A.

The exhibition of this Association was held in conjunction with the Warwickshire Agricultural Society's show at Solihull, on August 27 and 28. The honey shown was of exceptionally good quality, and some excellent exhibits of appliances were staged by Messrs. Taylor, Welwyn, Herts; Thomson & Co., Birmingham; and Geo. Franklin, Burton Green, Kenilworth. The following were the awards:—

Observatory Hive, with Bees and Queen.—1. *Best Stock of Foreign Bees.*—1st E. H. Taylor, Welwyn. 2. *Best Stock of English Bees.*—1st, G. Franklin, Kenilworth; 2nd, E. H. Taylor.

Complete Frame-Hive.—1st and 2nd, E. H. Taylor; 3rd, G. Franklin.

Complete Hive for Cottagers' Use (price not to exceed 10s.).—1st and 2nd, E. H. Taylor.

Display of Honey from One Apiary.—1st, John Walton, Honey Cott, Weston, Leamington.

Box of Shallow-Frames ready for Extracting.—1st, John Walton; 2nd, John Corbett.

Twenty-four 1-lb. Sections.—1st, Anthony Bayley; 2nd, John Walton; 3rd, H. G. Eveson.

Twelve 1-lb. Sections.—1st, J. Walton; 2nd, H. G. Eveson; 3rd, Thos. Cox.

Twelve 1-lb. Jars (Dark) Extracted Honey.—1st, J. Walton; 2nd, J. Corbett.

Display of Extracted Honey (not exceeding 50 lb.) in 1-lb or 2 lb Glass Jars.—1st, G. Franklin; 2nd, J. Walton; 3rd, B. Mowan.

COTTAGERS' CLASSES.

Display of Super Honey from one Hive without Destroying the Bees.—1st, C. J. Grove; 2nd, J. Blizzard.

Twenty-four 1-lb Sections.—1st, J. Lees.

Twelve 1-lb. Sections.—1st, H. Cleaver; 2nd, J. Seeney; 3rd, R. Cleaver.

Twelve 1-lb. Jars of (Light) Extracted Honey.—1st, R. Cleaver; 2nd, C. J. Grove; 3rd, H. Cleaver.

MEMBERS ONLY.

Articles of Food of which Honey is an Ingredient.—1st, C. J. Grove; 2nd, J. Corbett.

Collection of Hives and Bee Appliances.—1st, E. H. Taylor; 2nd, G. Franklin; 3rd, Thomson & Co.

Beeswax.—1st, John Walton; 2nd, G. Franklin; 3rd, Thomas Cox.

The prizes were distributed near the bee-tent on Tuesday by Mrs. Dugdale, wife of the President of the Agricultural Society, who was supported by Lord Leigh (President of the Association), Sir Arthur and Lady Hodgson, and others. Lord Leigh congratulated the Bee-keepers' Association upon the excellent display of honey and appliances. The society, he said, had a higher standing than at any time in its history. Twenty-two years ago, when he became connected with it, there were only five members, and they now totalled over 400. His lordship also spoke of the benefits conferred upon cottagers by bee-keeping, especially pointing out that it was not only an interesting and useful hobby, but might be made a source of income. The President (Mr. J. B. Dugdale) and Sir A. Hodgson also delivered brief addresses, in which they appealed to villagers to take up the study of bee-keeping.—(*Communicated.*)

CHESHIRE B.K.A.

A very successful show of honey, hives, &c., was held in connection with the Cheshire Agricultural Show at Chester, on August 28. Both in the number of exhibits and quality of the honey it was the best show since the Associations of Cheshire and Lancashire have been separated. One side and the ends of a very large marquee were completely filled. A large proportion of the comb-honey was of excellent merit, whilst there were few inferior samples of run-honey. Mr. Little, of Chester, exhibited a tasteful honey trophy (not for competition) which well deserved the medal awarded by the judges, who were the Rev. J. F. Buckler, of Bidston Rectory, Birkenhead, and Mr. F. H. Taylor, of Fallowfield, Manchester. The awards were as follows:—

Best Frame-Hive.—1st, William Cartwright Moore, Warrington; 2nd, George Rose, Liverpool.

Twelve 1-lb. Sections.—1st, Rev. T. J. Evans, Tarvin, Chester; 2nd, W. Patchett, Caistor, Lincs; 3rd, W. Woodley, Beedon, Newbury.

Twelve 1-lb. Jars Extracted Honey.—1st, R. Gray, Hooton, Chester; 2nd, Rev. H. F. Goffe, Thoresway Rectory, Caistor; 3rd, A. Newstead, Ince, Chester.

Beeswax.—1st, John Berry, Llanrwst; 2nd, W. Ratcliffe, Barthomley, Crewe: 3rd, Rev. E. Charley, Ince, Chester.

Six Sections (members only).—1st, W. Ratcliffe; 2nd and 3rd, Rev. T. J. Evans.

MEMBERS' CLASSES.

Twelve 1-lb. Jars Extracted Honey.—1st, S. Eaton, Audlem; 2nd, R. Gray; 3rd, E. Maxwell, Tallam Green, Malpas.

Six 1-lb. Jars Medium-coloured Extracted Honey.—1st, R. Gray; 2nd, C. W. Tomkinson, Tarporley; 3rd, J. Cunnah, Marford, Wrexham.

Six 1-lb. Jars Dark-coloured Extracted Honey (other than Heather).—1st, J. Carey,

Bidston; 2nd, E. Griffiths, Larister; 3rd, E. M. Milligan, Frodsham.

Two Shallow-Frames of Comb-Honey—1st, R. Gray; 2nd, J. Dean, Upton Heath, Chester; 3rd, F. Hewitt, Tarporley.

Six 1-lb Jars Extracted Honey (district).—1st, J. Pennington, Heswall; 2nd, E. Griffiths; 3rd, A. Newstead.—(*Communicated.*)

HONEY SHOW AT MONTGOMERY, N. WALES.

In connection with the Flower Show at Montgomery, on August 29, there was an excellent display of honey, both in the "open" and "local" classes.

Mr. T. Pritchard, Bucknell, Shropshire, assistant expert to the Herefordshire B.K.A., was the judge, and made the following awards:—

Six 1-lb. Sections (ten entries).—1st, J. Carver, Wellington, Salop: 2nd, W. H. Brown, Shrewsbury; 3rd, J. Little, Llangollen; v.h.c., Phil. Jones, Church Stretton, and W. Woodley, Beedon, Newbury; h.c., W. Morgan, Forden, and S. Thomas, Llanidloes.

Six 1-lb. Jars Extracted Honey (seventeen entries).—1st, S. Temblett, Andover, Hants; 2nd, Simpson Jones, Welshpool; 3rd, W. Woodley; v.h.c., Rev. E. W. Brown, Montgomery; J. Carver; J. Pryce, Welshpool; h.c., W. Morgan; c., A. Hamer, Llandilo.

LOCAL CLASSES.

Six 1-lb. Sections (five entries).—1st, W. Morgan; 2nd, Rev. E. W. Brown; 3rd, A. C. Humphreys, Owen; c., Miss Trelford, Montgomery.

Six 1-lb. Jars Extracted Honey (ten entries).—1st, W. Stourton, Forden; 2nd, Rev. E. W. Brown; 3rd, W. Morgan; v.h.c., W. Worley, Chirbury, and Dr. Morgan, Montgomery.—(*Communicated.*)

NOTTS BEE-KEEPERS' ASSOCIATION.

ANNUAL SHOW.

The above association held their annual show at Moor Green on September 3 in conjunction with that of the Greasley, Selston, and Eastwood Agricultural Society. Regarding the honey section, it may be said that while fully up to the standard in point of entries, the exhibits were considerably superior to any the society has staged for some years past, the strongest classes being those for extracted honey.

Mr. C. N. White, St. Neots, was appointed judge, and made the following awards:—

Collection of Bee-Appliances.—G. H. Varty & Co., Colwick, 2nd prize. (As only part of goods were staged the 1st prize was withheld.)

Complete Frame-Hive.—1st, G. H. Varty & Co.; 2nd, J. T. Faulconbridge, Bulwell.

Honey Trophy.—1st, Geo. Hayes, Beeston.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st, J. Herrod, Sutton-on-Trent; 2nd, A. E. Trimmings, Gedling; 3rd, R. Mackender, Newark; h.c., J. T. Faulconbridge.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, G. Marshall, Norwell; 2nd, R. Mackender; 3rd, A. E. Trimmings.

Six 1-lb. Sections.—1st, G. H. Varty; 2nd, J. T. Faulconbridge; h.c., T. Cooper, Lynn Croft.

Six 1-lb. Jars Granulated Honey.—1st, J. T. Faulconbridge; 2nd, J. Herrod; 3rd, A. G. Pugh, Beeston.

Shallow-Frame of Comb-Honey for Extracting.—1st, G. Marshall; 2nd, W. Swann, Eastwood; h.c., J. Herrod.

Six 1-lb. Jars Extracted Honey (novices).—1st, Dr. A. Gregor, Sutton-on-Trent; 2nd, A. E. Trimmings; 3rd, J. Brumby, Newark.

Six 1-lb. Jars Extracted Honey (local).—1st, W. Brooks, Eastwood; 2nd, G. M. Bolton, Eastwood; 3rd, W. Swann.

Honey Vinegar.—1st, Geo. Hayes.

Honey-Cake.—1st, Mrs. G. Hayes, Beeston.

Observatory Hive, with Bees and Queen.—1st, R. Mackender; 2nd, G. Hayes; 3rd, A. E. Trimmings; h.c., G. Marshall.

Beeswax.—1st, A. E. Trimmings; 2nd, G. Marshall.

Mr. White also lectured and gave demonstrations of bee-driving in the bee-tent.—G. HAYES, Sec.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

HONEY PRODUCTION IN SUSSEX.

[4484.] Having now lived in the neighbourhood of Beachy Head for nearly a year, I feel I am qualified and justified in giving some opinion as to its honey-producing qualities.

I came to these two contiguous parishes of East Dean and Friston, lying at the back of Beachy Head, at the end of September, 1900, bringing with me all my stocks of bees and apparatus. My twelve hives (including a "Wells") were packed in a one-horse van, and took two days on the journey by road from Angmering to East Dean, arriving on the evening of the second day. Being exceedingly hard pressed for time, all I could do to prepare them for the journey was to take off all supers and tie down the roofs, trusting to the close-fitting glass quilts to prevent bees escaping at the tops. Then we closed the

wooden doors and nailed them down, and also nailed the brood-boxes to the floor-boards. I had no wire gauze or perforated zinc, and could not get any in time. Naturally, I quite expected to find the bees suffocated upon arrival; but not a bit of it. They were alive enough to give me the warmest reception I have ever yet had at their *stings*, and to make it very difficult to draw the nails fastening the doors, and release them. The journey was accomplished without any mishap.

They were so well provided with stores that for the first time I put on no candy, and they went through the winter perfectly. I was extremely busy settling down in my vicarage and taking up the threads of work in my new sphere, and unfortunately did not examine them later as I ought. The result was that late in the spring I found, to my intense regret, that one stock had only just died of starvation. It was a lesson I shall never forget. On examination, I found nearly all the stocks short of food, and during the two or three weeks thence to the beginning of the honey flow I fed my remaining twelve stocks with quite 1 cwt. of sugar in syrup.

The result was that, by the time the honey flow set in, they were in a first-rate condition; and from then until now they have not ceased storing honey.

Several stocks swarmed, some more than once, and nearly all who did this were eventually found to be queenless. The hives unfortunately have to stand quite close together, giving the queens but a poor chance of regaining their own hives. Altogether I secured seven swarms. Two of these I put together, and I believe they will return to me nearly 100 lb. of honey this season. In another case I put three smallish swarms together, and they have done nothing, and turned out to be queenless. With one swarm I strengthened up a stock already queenless. Another I hived singly. But I do not care to increase the number of my stocks. From twelve to fifteen are all I can manage.

From those that did give a return I took over 400 lb. of honey before July 9. Since then I have taken sixty sections, making ninety off one hive, and there are more to come; but having let my vicarage for July and August, and only going down from Saturday to Monday for my Sunday duty, I have been unable to keep extracting. All I could do was to put on every super I have—some three or four to each hive—and several are again full to the top and awaiting extraction.

My "Wells" hive, having swarmed, went queenless on one side, as it invariably does under these circumstances; and I must throw in a driven lot or two later, when the supers are taken off and the two stocks are separated for the winter. The bees would refuse any queen now introduced, as, having free access to both sides, they consider they have one queen for the whole family, and would treat another as an intruder. When the two stocks, with two queens, are amicably at work in the supers, I have reason to think that the two stocks do not work together, nor pass through each other's hive, but each keeps strictly to its own side. This only will account for two queens being allowed at the same time.

The return is greater than I ever had at Angmering, to my intense surprise. The Downs are now being more and more farmed, and there are great stretches of clovers, sainfoin, mustard, cultch, &c. Then the gorse is not to be despised. But from the early spring until now the short, springy down turf is simply a mass of flowers succeeding upon flowers. For a great part of the summer the air is laden with perfume. There are masses of purple thyme and other wild herbs. And those who think the Downs a bare and uninteresting expanse are greatly mistaken.

At any rate, this neighbourhood seems unrivalled, and to have the reputation of being so, for honey production in great quantities and of a rare quality. I for one am fully content with my take. The somewhat sharp cold in winter, and the rough winds to be expected at any time, do not seem, much to my astonishment, to militate against the bees. These thrive and prosper, and seem as contented as their owner.

Many skeps are kept, but hardly any bar-hives for many miles round. I have filled up my queenless hives with driven lots, and all are now doing well.

My stocks were duly examined in the spring by the expert for Sussex, Mr. Herrod, and for the first time pronounced free from foul brood; and I have seen no sign or symptom of it since. If I have succeeded in eradicating this pest it is due entirely to the use of the painter's lamp in burning out hives and floor-boards. I have even treated excluder-zincs in the same way; but great care is necessary not to fuse the metal. No germ can live in that fierce heat, thoroughly and searchingly applied; and it obviates all need for painting, varnishing, &c. If another outbreak of foul brood occurs it is very troublesome to get rid of the coating of paint; it gets very dirty in time, and is in several ways a nuisance. Since Mr. Brice has published his researches I have lost confidence in any antiseptic of which we at present know, and I pin my faith to burning out and destroying all that cannot be burnt out, saving the bees on fresh combs in a disinfected (*i.e.*, burnt-out) hive.—Rev. W. R. NIGHTINGALE, *East Dean Vicarage, Eastbourne.*

(*Correspondence continued on page* 366.)

HOMES OF THE HONEY BEE.

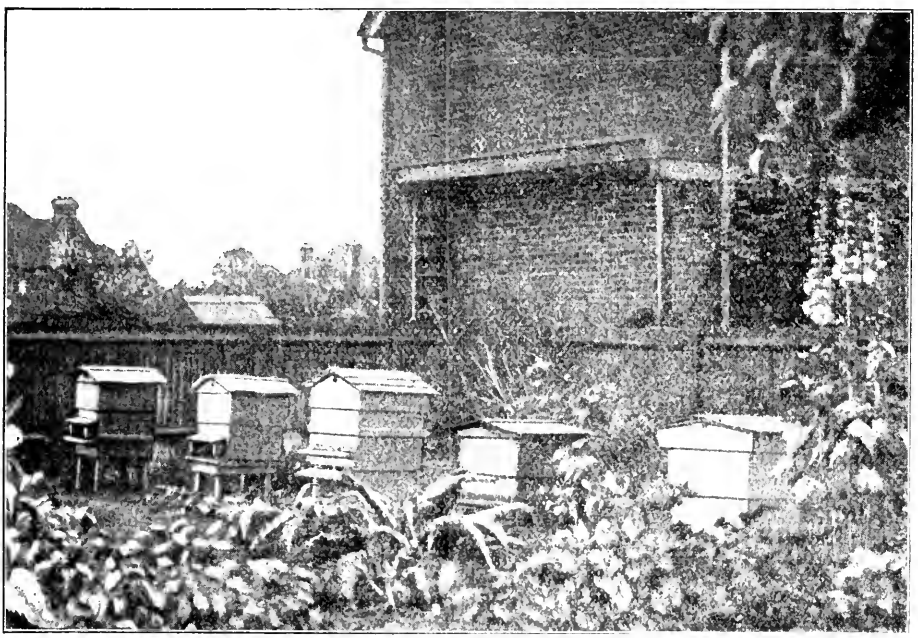
THE APIARIES OF OUR READERS.

We are at all times pleased to illustrate the bee-gardens of our lady readers, and Miss Gilmour's apiary, shown on next page, is a typical suburban "Home of the Honey Bee,"

whose owner takes pleasure in the bees though "punished at times with their stings." The interesting "notes" sent at our request read as follows :—

"In the spring of 1895 I purchased a stock of bees in a straw skep. At that time I knew absolutely nothing about the practical part of bee-keeping, never even having seen the inside of a hive ; but I had read 'Modern Bee-keeping,' and so had been fired with enthusiasm to begin.

"I did no good with my bees that year, but the following spring a village bee-keeper came to my rescue. He drove the bees for me into a frame-hive, and persuaded me to get another stock, saying, 'Two hives are no more trouble to look after than one.' Under his guidance I got on well till June, '98, when we 'moved house.' As the distance by road to our new quarters was only eight miles, I wanted my bee-man to bring my hives over for me in a light cart. This idea he laughed at, saying they would come quite safely on a furniture van ; he also assured me that he was 'as good as any expert,' and could pack them for me quite safe ; and as he had moved his own apiary of twelve or thirteen hives successfully that spring I believed him. But alas ! the 'packing' was of a very primitive order ; he simply fastened sheets of perforated zinc over the entrances and *flat* over the tops of the frames. The weather was hot, the van was delayed on the road, and when I went to 'unpack' my bees I found a heartrending state of things. All the combs had fallen, and my poor little bees were suffocated with their own handiwork. I shall never forget the sight—it was a perfect nightmare ! Out of two strong hives I had about a pint of live bees left (no queen, of course). The 'packer' came over to see the wreck ; he tied some of the combs into frames, put them and the live bees into a hive, told me they would 'be all right,' and left. I could get no satisfaction out of him ; he refused even to give me a swarm from his hives. In despair, I did what I ought to have done at the commencement of my bee-keeping—I joined the Surrey Bee-keepers' Association, and asked for an expert's help. Mr. Miller, of Egham, came, and a most kind friend he has been to me.



MISS ETHEL M. GILMOUR'S APIARY, BUSHTON, CLAYGATE, SURREY

He started me afresh with three stocks of healthy bees (which last year increased to five stocks, as seen in the photograph), and under his tuition I have learnt to manage my apiary with pleasure and profit. My advice to beginners is always, 'Do not trust amateur guidance too far.' You learn more from a real 'expert' in an hour than you do from an amateur in a week—and do not have to *unlearn* the teaching afterwards.

"I find many people have an idea that bees will not sting those who attend to them. If this is true, I must be 'the exception that proves the rule' ; for my bees punish me terribly sometimes. For the sake of fellow-sufferers, may I say I find the best remedy is to rub the place well with a freshly-cut onion

and then keep it well bathed with Pond's Extract?

"This is a good honey district, there being plenty of orchards, white clover, and limes about. And we have had a splendid year to start the century. I have averaged 70 lb. a hive (I have never averaged more than 50 lb. before), in spite of several swarms. Not wishing to increase my stock, I returned all swarms to the parent hives, though I felt it was a risky thing for an amateur to attempt. Two of the swarms settled down more or less quietly, but the third (the middle hive in the photograph) came out four times at different intervals. So I feel I have this season gained valuable experience in many ways, and shall certainly return any swarms I may have next year. A small garden, with neighbours' gardens touching it on all sides, is not exactly an ideal place in which to keep a large apiary."

CORRESPONDENCE.

(*Continued from page* 364)

THE BIG HONEY SHOWS.

A NOTE BY THE WAY.

[4485.] Referring to the series of honey exhibitions at the Royal Agricultural Hall, connected with the Trades Exhibitions Company, may I be allowed to make a suggestion to the executive as regards the space allotted to the so-called "Trophy Class?" The schedules of the "Confectioners'" and the "Grocers'" Exhibitions both say "the exhibits must be staged on 3 ft. by 3 ft. space." The word "trophy" in these classes is, in my opinion, a misnomer. If it is to be a display in suitable form for a tradesman's window, the space allowed for staging should approximate to the shape of a shop window, say 7 ft. by 3 ft., or for so small a quantity of honey as "about 100 lb." a space of 5 ft. by 2 ft. 6 in. would be a far better space than the "3 ft. by 3 ft." of the schedule. The goods could then be staged as in a window, "best side to the front," and exhibitors would know exactly in what form the display should be made, diversified, of course, by each exhibitor's taste and supply of material.

I also think the committee should decide to make it clear whether the prizes are offered for superior quality and uniform excellence of products staged, or for the display of products of mixed quality and of different shapes of saleable packages suitable for the retail counter trade.

I know this "note" opens up a wide field for discussion, and if taken up heartily by all concerned, it would, I feel sure, greatly extend the "display" class or classes. It would give the trader in honey a chance of winning if, say, two classes were open, one for excellence in quality and taste in display, and another class for the best display of honey and products irrespective of quality. This, I contend, would induce master grocers to compete and help in the further extension, not only of the exhibitions, but of the honey industry also. It may, perhaps, not be too late for the space to be altered for the staging of Class 101 at the Grocers' on September 21 to an approximate window's dimensions; the small width (3 ft.) restricts display suitable for a window. If this was altered to 4 ft. by 2 ft. 6 in. it would meet the wording of the schedule and give exhibitors a freer hand in display. The same stands would be better filled, at least from one point of view.—W. WOODLEY, *Beedon, Newbury.*

LATE-FLOWERING LIME TREES.

[4486.] At one of our council meetings last autumn some lime-blossoms and leaves were shown, and the subject of varieties, some blooming later than others, discussed. It will be remembered that I promised to note the different varieties growing in Much Hadham, where there are so many old lime trees, the remains of many old avenues.

They have all been unusually full of bloom this year, and I sent a spray from each of three trees which seemed to me very distinct to the editor of the *Journal of Horticulture*. In a subsequent issue the following reply to my inquiries appeared:—

"M. L. G.—No. 1. *Tilia vulgaris* (syn., *Europæa*), common lime.

No. 2. *Tilia platyphyllus var. aurantia.*

No. 3. *Tilia heterophylla.*"

A friend has just lent me a curious old book entitled "The Manner of Raising Forest Trees, &c. By Moses Cook, Gardener to the Earl of Essex, 1675, at Casioberry." The other Hertfordshire residence being Hadham Hall. Speaking of the lime trees to be planted at Casioberry, the author says, "They being trees that I raised from seeds, most of them, and the rest of layers at Hadham Hall." Probably all our beautiful old lime trees came from this nursery, and tell their age, I should think. Perhaps these notes may interest your readers.—MARY L. GAYTON, *Much Hadham, Herts.*

INSECTS AND FLOWERS.

[4487.] Professor Félix Plateau, of Gaud, in Belgium, has made some experiments bearing on the subject of the constancy of insects in their visits to flowers. He comes to the following conclusions:—1. None of the apidæ observed—*Bombus, Apis, Megachile, Anthidium, Caliopsys*—exhibit absolute constancy. Even those which are habitually most constant may turn from the kind of plant they have been visiting and tackle a quite different species. 2. The species of *Bombus* are very fickle, rarely remaining constant to one species except for a short time. 3. In *Anthidium manicatum* and *Apis mellifica* the constancy is remarkable, but with distinct exceptions.

4. Like his predecessors—A. W. Bennett, Miller, Christy, Bulman, and G. W. Ord—Plateau found that the inconstant bees pass from one flower to another quite different in colour and form ; they seem indifferent except to nectar and pollen. 5. The difference in habit between the constant and inconstant forms does not seem to imply great intelligence ; it is, perhaps, an expression of the fact that the constant forms are less strong and save their energy by uniformity of action. 6. The constancy results in greater adeptness in collecting the nectar and pollen and saves time, but it is not adhered to in order to secure these ends.

I have gleaned the above from the August number of the *Journal* of the Royal Microscopical Society of London. As, however, the author of the above, Professor Plateau, has been good enough to send me no less than six or seven of his recent publications, I hope in the near future to give BEE JOURNAL readers some further details of these experiments.—R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., &c., *Dalry, Galloway, N.B., September* 4.

A BEE ASSOCIATION FOR HERTS.

[4488.] A short time ago the names of those willing to assist in the formation of bee-keepers' associations for several counties were invited in your pages. Can you tell me who is endeavouring to form one for Hertfordshire ? I shall be willing to join it, and I am also in a position to help such an organisation forward so far as giving publicity to its doings is concerned.—A HERTS BEE-KEEPER, *Rickmansworth, Herts.*

[We will forward your name and address to a gentleman who is taking some interest in the matter referred to above, and it is more than probable that he will write you on the subject. —EDS.]

BEES NEAR LONDON.

[4489.] As showing the amount of honey which may be gathered by bees located even in such a thickly-populated district as East Ham, it might be interesting to B.B.J. readers to know that J. Pearce, Esq., of 119, White Post-lane, Manor Park, has this season secured 180 lb. of honey from two hives in his back garden. The main source of supply is, of course, from the limes, but on April 26 I found his bees storing in shallow-frames from fruit trees in the vicinity.—W. A. WITHYCOMBE, Expert, *Essex B.K.A.*

SELLING HONEY.

[4490.] Would you kindly allow me to convey my thanks to those who replied to my advertisement in your pages offering to buy honey ? So many offers were sent that I cannot reply to all. We often hear that some bee-keepers cannot sell their produce, but I think that in most cases (if not all) it lies with themselves. I will give an instance. One writes :—"I have half a ton of very good light honey ; what are you offering ?" Well, I am not a buyer and seller too, and as no sample was sent do not know what class of honey it is. As a matter of fact, we have not bought the lowest-priced, but from samples we liked best. It may interest B.B.J. readers to know that first-class clover honey averages a penny per pound more this year than last. In this district we have done well this season. I have taken eighteen shallow frames and six sections from one hive ; weight, lowest frame, 3 lb. 14 oz, and highest, 5 lb. 4 oz. ; and a friend forty-eight well-filled sections. What do you think of this so near London ?—WEISE, *Anerley, September* 7.

Queries and Replies.

[2717.] *Dusty Bees.*—Would you kindly enlighten me on the following : 1. A June swarm of English bees has increased rapidly up to present, but how am I to account for a number of bees now flying which are absolutely white on shoulders and back, to all appearance as if they were thick with snow-flakes. It is not pollen, because they leave their hive in the same condition ? *How Frames should Hang.*—2. What are the reasons for some apiarists preferring to hang the frames parallel to the entrance and others at right angles ? *Extracting from Brood Frames.*—3. My swarm has made no surplus-honey up to present, but their ten frames in brood-chamber are filled with honey and brood. Would you advise me to extract two frames and feed them up with syrup, or leave their stores alone to winter on ? I should say they have over 30 lb.—R. H. CHADWICK, *Southport.*

REPLY.—1. The substance is pollen, and your bees have probably been working on Canadian Giant Balsam, the bell-like flowers of which yield white pollen so freely that the bees emerge therefrom like "dusty millers." 2. We suppose the "reasons" are that "tastes differ," but we think a large majority of practical and well-known bee-keepers of to-day prefer the frames at right angles to entrance. If evidence of this preference were needed we undertake to say that at the leading shows where up-to-date hives are staged, you will not see one in a hundred (or in five hundred) where the frames hang parallel to entrance. At the same time, we quite agree that with individual bee-keepers and their personal preferences it is a case of "pay your money and take your choice."

[2718.] *Bees Removing Dead Brood.*—I thank you for reply in B.J. of August 22 to my query on page 337. I am glad to know that there was no foul brood in the comb, but

the case is, I fancy, of rather more than ordinary interest. I did not notice that I sent only drone-brood. It was a fair sample of the rest. I re-examined the hive later and found some of the brood capped over as worker-brood is always capped, while some of the cappings of worker-cells were raised as is customary when bees are rearing drones. I also saw several workers gnawing their way out. The queen had laid her eggs in regular order in five or six central combs, but, probably owing to the large quantity of dead brood still in the hive, she had to search a great deal for vacant spaces. I went over the combs twice, but I failed to find the queen. I noticed that the colony had become weaker, which was only natural under the circumstances, and that some of the workers had two leather-coloured bands at the top of the abdomen. I had never before seen hybrids in the hive. They looked like young bees, which inclines me to think they were not robbers. You ask whether the bees have b en overdosed with disinfectants? As a matter of fact, I have given them nothing but some combs (their own) to clean after extracting; nor have I used naphthaline or anything else of the kind inside the hive. It is therefore exceedingly difficult to account for the death of the brood. There is, of course, the possibility of the bees having got some poisonous substance somewhere. 1. Is it usually necessary to remove brood which has died in this way? I ask this because up to the present the bees have made no great progress in clearing it out. Indeed, some brood in a new comb they have been building has died since I first wrote.—CHAS. H. HEAP, *Rickmansworth, August* 26.

REPLY.—Bees will carry out dead brood unless it is in badly diseased condition, but it is a rather cruel task to inflict upon them; just as it is to leave them to drag out hard pollen-pellets from the cells. Good bee-keepers spare the bees this wearying labour and so release them for honey-gathering.

[2719.] *Aspect for Hives.*—Your reply to the following queries will oblige:—1. Will a S.W. by S. aspect suit bees, as I have no choice? 2. They will be exposed a good deal to westerly winds, so would it be needful to put up a board a little distance from entrance of hives to keep wind from blowing into them; or will it do to reduce size of entrance when such winds are blowing? *Rendering Old Combs into Wax.*—3. Is very old comb (same as enclosed) worth turning into wax; and would you recommend me getting a steam or a solar extractor? *Changing Floor-boards.*—4. Is it needful to change or clean floor-boards twice a year, autumn and spring? *Hive Stands.*—5. Do you recommend, say, 3-in. deep timber skep put under frame hives during winter?—F. J., *Mountmellick, August* 29.

REPLY.—1. Yes. 2. If exposed to strong wind a screen-board will be most useful to enable the bees to alight in gusty weather. 3. The comb sent is so very old and black as not to be worth the trouble of rendering? Are you aware that the comb sent is affected with foul brood? 4. So long as floor-boards are scraped clean and all debris removed there is no need to change them. 5. We prefer a loose stand such as is used in the "W.B.C." hive.

Echoes from the Hives.

Levisham, September 7.—Heather season over in this district. Strong stocks have done well; weaker lots only moderately. Nothing been added to weight of supers since the severe storm on 26th ult. There are a large number of unfinished sections on hives, and these should be seen to at once. With a good deal of shifting about in this way I have managed to get a fair lot completed; but season is not so good as last year.—J. RYMER.

Fryup, Grosmont, Yorks.—We have had splendid weather here this season. My extracted honey is of very good quality and plentiful in quantity. I began taking heather sections off on August 12, earlier than ever before. I weighed eleven of them, and they scaled 11½ lb. That was not bad for August 12. I have now plenty more ready to take off. I have also five shallow-frames sealed over, but my bees have only about fifty yards to fly before they are into thousands of acres of heather.—ROBT. HUNTON.

Bee Shows to Come.

September 7 to 14, at the Agricultural Hall, London.—Honey Show in connection with the Confectioners', Bakers', and Allied Traders' (9th) Annual Exhibition and Market.

September 15 and 16, at Sivry, Hainaut (Belgium).—Annual show of the Fédération Apicole du Hainaut. Open classes for honey, hives and appliances, mead, vinegar, wax, teaching, and work. Jars, bottles, &c. Schedules from M. Zénobe Defrenne, à Sivry.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades.

September 28, at Jedburgh.—Roxburghshire B.K.A. Annual Autumn Show of Bees, Hives, Honey, &c. Twenty-three classes (including eight open classes) for Bees and Bee Produce. Schedules from Thos. Clark, Pleasants, Jedburgh, N.B. **Entries close September 24.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

D. Lewis.—*Driven Bees for Trouble of "Driving."*—In times gone by bees could no doubt be had in many places for the trouble of driving, but for some time past so great has been the demand for driven lots that some bee-keepers make quite a business of selling. You cannot do better than consult our "prepaid" advts. in order to verify this.

M. H. Stokes (Kent).—*Expert Help.*—The cost of an expert's services would certainly not be less than a year's subscription to the County B.K.A., and this latter would also include a copy of the *Bee-keepers' Record* post free every month.

T. W. (Abergavenny).—*Disqualifying Exhibits.*—It was no error on your part to send five 1-lb. jars of honey for an exhibit described in schedule as "Best-run honey in jars not less than 4 lb.," nor would a competent judge have disqualified your five jars, seeing that the only limit was with regard to the minimum weight. According to the schedule you might have staged any weight beyond 4 lb

A Three Years' Reader (Conway).—*Curious Effects of Working among Bees.*—It is a fact that the effects of working among bees are most curious in rare instances, but we never heard of so severe a result as to confine a man to bed and require a doctor's attendance, as you state. Surely the man must have been stung to bring about such a result? So far as regards doing anything to avoid such suffering as you describe, we should advise giving up the bees entirely.

Sandy (Birmingham).—*Adding Formic Acid to Honey.*—Whatever use bees may make of formic acid in preparing their food for keeping, it is folly for bee-keepers to add acid to honey for any purpose whatever.

Anxious One (Bognor).—*Bees Attacking Fruit.*—It has been established beyond doubt that bees will not damage fruit, and the gentleman's threat to "get rid of all the bee-keepers round about him because of bees spoiling his apricots" need cause you no alarm. Bees will, and do at times, suck the juices of ripe fruit that has been first damaged by wasps, but they will never attack fruit not already damaged by other agencies.

W. H. B. (Shrewsbury).—*Wax Moth.*—The larvæ sent is that of the genuine and worst form of wax moth (*Galleria cereana*). The small moth usually found in the saw-kerf of top bar is easily got rid of, but the larvæ of *G. cereana* will destroy a weak stock of bees in a very short time. The larvæ should be rooted out at once when found among the combs of a hive.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," "not Manager."

Cymraes (Anglesea).—Nearly all the dead brood in comb is "chilled," but we also find several cells affected with foul brood. It is not at all unusual for a stock to do well as yours did while suffering from foul brood in mild form, as with the hive in question. You will, however, need to use preventives and keep a close look out to see that the disease is not spreading. We will deal with the other portion of your letter next week.

J. W. E. (Halkin).—We fear your sample of suspected comb has miscarried, as no trace of it can be found here. Can you send another piece?

M. M. McC.—There is distinct and decided foul brood in every one of the few unsealed cells of comb sent. Should there only be a few of such cells in the hive, we should cut each cell carefully out and remove them for burning. Do not unite the bees to another stock, but feed on medicated food and use preventives for keeping the bacilli under while in the active state; then see how the brood looks in spring, and take drastic measures if the disease appears again.

H. J. P.—Dead brood in comb is nearly all "chilled," but in a few of the sealed cells we find foul brood in the incipient stage.

Honey Samples.

C. H. (Droitwich).—Neither sample is up to show standard, though of fair flavour. The honey would not keep well, being thin and unripe. We shall be glad to insert view of your apiary if suitable.

Sarum.—The honey sent is of very good quality. Its deep golden colour is liked by some better than lighter coloured honeys. The Hon. Sec. of the Wilts B.K.A. is the Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

*** Our esteemed contributor, Mr. F. W. L. Sladen, Ripple Court, Dover, writes us to say that he is leaving on the 14th inst. for a trip to America, and it may be well for his numerous correspondents who are B.B.J. readers to know that letters will find him in America if addressed c/o Mr. E. R. Root, Editor, *Gleanings in Bee Culture*, Medina, Ohio, U.S.A.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SELECTED, TESTED, 1901 QUEENS, 2s. each, post free. F. WOOLDRIDGE, Chippenham, Wilts. I 17

DRIVEN BEES FOR SALE. With Queen, 4s. Also several Stocks in skeps. PETERS, Banstead. H 81

WANTED, 3-dozen worked-out STANDARD FRAMES at once. CRAWSHAW, Burnside, Ilkley. I 18

PRIME HONEY FOR SALE; Sections, 7s. 6d. per dozen; Extracted, £2 10s. cwt. HARRY SWIFT, Churchdown, Cheltenham. I 10

WANTED, cwt. good, light-coloured CLOVER HONEY. Samples and prices, to DUFFIELD, Dragon Junction, Harrogate. I 14

HONEYSLICE SECTION WRAPPERS, artistically designed Label Bands, 2s. per 100. Of dealers, or BELL, Beverley House, East Barnet. I 16

STRAWBERRY PLANTS, 1s. 100, 7s. 6d. 1,000; early variety. Buy hardy northern stock. RAITT, Blairgowrie. I 18

HONEY (New Extracted) 50s. cwt.; sample 2d. OWEN BROWNING, Apiarist, Kings Somborne, Hants. I 9

WANTED, by young man, SITUATION as ASSISTANT in a bee and fruit farm or garden. Bee expert. Total abstainer. SHORT, Fore-street, Kingsbridge, Devon. I 8

WANTED, 100 QUEEN BEES and 100 DRAGON FLIES, or any smaller number, and largest Grasshoppers. BONNER CHAMBERS, Diptford, S. Brent, S. Devon. I 11

GUARANTEED pure ENGLISH HONEY 56s. and 50s. per cwt. Sample, 2d. Cash or deposit. ALBERT COE, Apiary Hall, Ridgewell, Halstead, Essex. I 19

PROLIFIC QUEENS. — Imported Carniolans and Italians, 5s. 6d. each; home-raised ditto, 5s.; common, 3s. 6d.; Stocks, Swarms, Nuclei headed by any variety queen at fair prices. E. WOODHAM, Clavering, Newport, Essex. I 13

BEES.—As I am very shortly moving my apiary I must sell several STOCKS, all on Standard frames wired. Plenty of brood and stores. Prolific Queens, 15s. per stock, on eight frames, two for 28s. cash or deposit. The above are quite healthy, and will be sent immediately in a ten-framed brood box non-returnable. Or best offers. Correspondence invited. EDWARD ROBB, The Apiary, Outwell, Wisbech. I 15

SECTIONS and EXTRACTED HONEY FOR SALE. Good quality. ED. BAILEY, Cheveley, Cambs. I 4

40 DOZ. white CLOVER SECTIONS, 9s. doz. First quality. BENNISON, Scorton, Darlington. I 6

HEATHER HONEY LABELS, 9d. 100., 3s. 1d. 500. GUEST, King's Norton. H 84

HEATHER HONEY in sections and shallow-frames. Address, "A." *Bee Journal* Office. H 91

WANTED, DRIVEN BEES in Exchange for Appliances. Guaranteed. GUTHRIE BROS., Alloway, Ayr. I 7

EXCELLENT CLOVER HONEY, 28-lb. tins, 6½d. lb.; fine Heather Blend, 7½d. Tins free. Sample, 3d. LANCELOT QUAYLE, Glenmay, Isle of Man. I 3

SPLENDID NATIVE and LIGURIAN 1901 tested QUEENS, 5s. each. GUTHRIE, Alloway, Ayr. H 80

STRONG HEALTHY STOCKS, 10 Combs, young Queens, 21s. CARR, Norwood-avenue, Southport. H 26

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

Prepaid Advertisements (*Continued*).

25TH YEAR.—Choice 1901 QUEENS, in introducing cages, 3s. 9d., delivered; with Swarm for building up, 5s. 6d. Package free. ALSFORD, Expert, Blandford. H 63

EDWARD'S PEDIGREE QUEENS, record-creating, non-swarming strain; autumn-raised, 4s. each, post free, in new introducing cage. Selected Queens, 5s. 6d. Orders now booked. Shrubshill Apiary, Sunningdale (late "Beecroft," Ashford).

FINE PROLIFIC Tested 1901 QUEENS, 3s. 6d. each, post free. Bees 1s. 3d. per lb. for 5 lb. lots or over, Queen included. Guaranteed healthy and safe arrival. Packages to be returned. WHITING, Valley Apiaries, Hundon, Clare, Suffolk. I 8

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

SPRING Dwindling and Light Supers are unknown where White Star Italians are used. Store in all weathers if flowers are about, and a month later than Natives and other varieties. Always ready for fruit blown in spring. Leave all others behind at the heather. S. SIMMINS, Heathfield, Sussex.

LACE PAPER for SECTION GLAZING. White, 1 in. wide, in three neat patterns, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also LACE BANDS, White, 3 in. wide, lace both sides, 100, 1s. 3d., 200, 2s. 3d., 300, 3s.; Pink, 3 and 3½ in. wide, 100, 1s. 6d., 200, 2s. 9d., 300, 4s.; Pale Green, 3 in. wide, same price as Pink; all post free. The alterations above are owing to colours and widths being cleared for this season. W. WOODLEY, Beedon, Newbury.

CLOSE OF SEASON, 1901.

CLEARANCE SALE.—Having a large Stock of the following still on hand, I am offering at greatly reduced prices—

"Cowan" Extractors	50/-	reduced to	42/6
"Raynor" ,, ...	32/6	,,	28/6
"Guinea" ,, ...	22/6	,,	19/-
,, Geared	33/-	,,	26/-
Small Wax Extractors	2/6	,,	2/-
Large Round Float Feeders ...	2/6	,,	1/8
Small ,, ,, ,, ...	1/6	,,	1/-
Bottle Feeders	1 3	,,	10d.
Queen Excluders	9d.	,,	6d.
,, ,, ...	8/- doz.	,,	5/6
,, ,, Long Sheets (96×16)	3/6	,,	2/3
,, ,, ,, ,, (96×32)	6/6	,,	4/3
Standard and Shallow Frames	1/3 doz.	,,	10d.
,, ,, ,, ,,	8/4 100	,,	5/6
Sections	2- 100	,,	1/8
,, Split Top	2/6 100	,,	1/10
,, ,, ,, ...	20- 1,000	,,	17/-
Smokers	3/- each	,,	2/3
,, (Meadows')	2 6 ,,	,,	1/8
"W.B.C." Ends	4/- gross	,,	2/9
,, ,, extra wide ...	4 6 ,,	,,	3/-
Tough Wood Dividers	10d. doz.	,,	6d.
,, ,, ,, ...	6 - 100	,,	3/6
Metal Dividers	1/- doz.	,,	8d.
,, ,, ...	7/6 100	,,	5/-
Comb Foundation	2/- lb.	,,	1/9
,, ,, Thin for Sections	2/6 lb.	,,	2/1
Super Clearers	2/- each	,,	1 8
Woiblet Spur Embedders ...	1/-	,,	9d.
Section Racks	2/6	,,	1/9
Shallow-Frame Boxes, complete	3/-	,,	2/2
Wire and Net Veils	2/-	,,	1/6
Black & White ,, ...	1/6	,,	1/-
Uncapping Knives	2/-	,,	1 6
"Record" Bee Hives	10 6	,,	9/9
1 gross Lee's Dovetail Frames	19/- any reasonable offer.		
1 ,, Shallow ,, ,,	,,	,,	,,
Honey Ripeners and Strainers	12/6 reduced to		9/6

W. SHEPHERD, Oxton, Tadcaster, Yorks.

Editorial, Notices, &c.

THE CONFECTIONERS' EXHIBITION.

(*Report continued from page* 362.)

A second visit to the honey section of the above exhibition made it clear to our mind that there is still room for improvement with regard to the way in which the honey and bee-products are arranged and staged for inspection by the public, and also by bee-keepers who are, more than any one else, interested in the honey department of the show.

We think it completely spoils a display of sections and honey in glass jars to have visitors "roped off" so far from the exhibits as to prevent a chance of viewing them except at a distance of four or five feet away. Again, the exigencies of space compelled the Directors to stage the honey in several places instead of all together. For instance, the medium and the dark coloured honeys had to be relegated to a position in the gallery, while the six trophies were arranged on two stages some distance apart from each other—four trophies being shown on one stage, and two, along with shallow-frames for extracting and the exhibits in the class for beeswax, on the other.

We have little doubt that arrangements will be made next year for having the whole of the honey displayed in one place, say the Minor Hall, on the ground floor. If a good roomy space could be allowed for in this annexe, and have it mainly occupied by the honey on show, together with a large and good "working exhibit"—illustrating all the various phases of bee-craft—it would form one of the features of the Trades Exhibition of 1902.

No doubt the somewhat strict requirements of the County Council stand in the way when the preferences of individual exhibitors need to be thought of, but when we bee-keepers—who are first of all desirous of seeing the bee-craft show up well—bear in mind that the Managing Directors of the Trades Exhibitions and Markets are most cordially anxious to make the bee and honey section a success, and give such practical evidence of their anxiety by the prizes offered for competition; then we say it is only a question of a little time before every reasonable requirement will be met, and the bee-industry next year, we hope, will be represented by a "Working Exhibit" and a show of honey in competition for the prizes such as will make it one of the most popular and attractive sections of the whole exhibition.

With regard to the several classes comprised in the schedule, a few were fairly well filled, notably that for light-coloured extracted honey in which nearly 600 jars of beautiful produce were staged; next came Sections, twenty-two dozen of which made a very decent display in point of numbers, and for excellence in quality, far surpassing any we had previously seen this year. The next in point of numbers came twenty dozen jars of medium-coloured honey, comprising some exceedingly good samples. There were also six Honey Trophies, all of which looked well and contained very excellent samples of bee-products, both in comb and extracted honey, beautiful wax, along with mead, honey-vinegar, &c. The first prize trophy was evidently staged by an exhibitor who had carefully read the schedule, for Mr. Brown's exhibit could have been carried off *en bloc* to a confectioner's window and there would have formed an attractive "draw" for converting customers into honey-consumers.

Mr. Woodley's trophy, which took second honours, was quite up to his high standard for excellence in quality of section and extracted honey, but it hardly met the "conditions" so well. However, Messrs. Lee & Sons staged a very attractive exhibit for a tradesman's window, as did also Mr. Greenhill, who secured fourth prize. Of the remaining two trophies Mr. Overton's was fairly good, but that of Mr. Kirby looked altogether too insecure in its "building up" for display in a tradesman's window.

In summing up our impressions of the honey-section of the show as a whole, we may say at once that what caused us not only regret, but a considerable degree of surprise, was to see so miserable an entry in eight of the twelve classes comprising the schedule. And it will, we hope, be a matter worth "thinking over" by bee-keepers who failed to take advantage of the opportunity offered, and so missed their chance, to recall a few instances of money prizes—higher in amount than at any show we can recall—literally "going a-begging."

In Class 101 there were six entries for four prizes, the first being £4 and the silver medal of the B.B.K.A., together with the handsome diploma given by the directors of the exhibition, and the others £3, £2, and £1 respectively, so that all but two exhibits secured a prize.

Next for remark comes the class for *Twelve 1-lb. Heather Sections;* and here, forsooth, four money prizes of 30s., 20s., 15s., and 10s. respectively, only brought forth two entries! We congratulate Mr. Waddell and Mr. Rowell on their luck in having merely to pay their entry fee and carry off the cash; but to think of the other two prizes being unclaimed is almost humorous in its novelty. The same may be said of the class for *Shallow-Frames*, which are, we suppose, almost as plentiful as blackberries this year. Five exhibits for four valuable prizes! Next in order "of merit" comes the class for *Twelve 1-lb. Jars Heather Honey*—four exhibits for four prizes! So that every bee-man who made an entry carried off a prize! For all the exhibits were good in quality.

Then we had six entries in the class for *Granulated Honey*, and four prizes. For *Dark-coloured Extracted Honey* there were

eight entries for four prizes, only three being awarded. For *Beeswax* "in cakes suitable for the retail counter trade," seven exhibits for four prizes; and in the final Class—*Beeswax*, judged for quality of wax only—twelve exhibits and four prizes.

We leave the above *precis* of the entries to tell their own tale, and if our readers will be inert and careless with regard to an opportunity like the one in question we have nothing to say further on the matter. After drawing attention to the show several times in editorials and otherwise, the rest was in the hands of bee-keepers themselves.

At the "Press luncheon" on the opening day of the Show, the Master of the Bakers Company (Mr. W. W. Ware) presided.

The toasts were confined to three only, viz., "The King," "The Press," and "The Colonies," and were duly honoured, but the speech of most interest to bee-keepers was that of Mr. W. E. Aylwin (one of the managing directors), who in calling attention to the chief features of the exhibition laid considerable stress on the honey competitions. These, he said, were under the auspices and partial control of the Council of the British Bee-Keepers' Association, and this was the first time British bee-keepers had competed in all classes of their show. It was also satisfactory to find that they had 200 competitors. What appealed to his mind was that honey could be raised for "a mere song." The industry should also appeal to all bakers and confectioners. A great point to be noted in respect of honey put upon the market under the auspices of the British Bee-Keepers' Association, was that it must not be adulterated in any way. A considerable quantity of honey was imported annually into this country; and he spoke with some knowledge when he said that a large percentage of it was adulterated with glucose. If any British bee-keeper was known to adulterate his honey in any way, the parent or central Association debarred him from again exhibiting, and he ceased to be a member of the Association. Bakers and confectioners buying British honey could therefore be absolutely assured that they were buying a pure product.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of August, 1901, was £1,965.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

DERBYSHIRE B.K.A.

ANNUAL SHOW AT DERBY.

The annual show of the Derbyshire B.K.A. was held on September 11 and 12 on the show ground of the Agricultural Society.

Compared with last year, the weather in the country during the present season has been very favourable from a bee-keeper's point of view; consequently there has been an increase of the number of exhibitors at this year's show. Amongst the exhibits in the tent was a grand collection by Mr. Walker, of Derby, the secretary, who had a well-arranged stand containing samples of honey from various parts of England and from several other countries. At intervals during the afternoon Mr. T. M. Jones, assisted by Mr. J. Rowland (Holbrook), gave a series of demonstrations of practical bee-keeping in the bee-tent, which proved to be a great attraction.

Mr. C. N. White, St. Neots, undertook the duty of judging, and made the following awards:—

Observatory Hive (single frame), with Queen and Bees.—1st, J. Pearman, Derby; 2nd, H. Hill, Ockbrook; 3rd, T. Richards, Church Gresley.

Observatory Hive (two or more frames), with Queen and Bees.—1st, H. Hill; 2nd, S. Durose, Burton; 3rd, A. H. Dawson and J. Spencer.

Display of Honey (not over 120 lb.).—1st, J. Stone, Cubley; 2nd, R. H. Coltman, Burton-on-Trent; 3rd, T. Richards; 4th, H. Hill; 5th, T. Austin, Alvaston.

Twelve 1-lb. Sections.—1st, R. H. Coltman; 2nd, J. Stone; 3rd, A. H. Dawson; h.c., J. Pearman.

Twelve 1-lb. Jars Light-coloured Extracted Honey.—1st, S. Durose; 2nd, J. Pearman; 3rd, A. H. Dawson; 4th, G. Pallett, Makeney; v.h.c., J. Stone; h.c., J. Bakewell, Burton.

Twelve 1-lb. Jars Dark-coloured Extracted Honey.—1st, A. H. Dawson; 2nd, S. Durose.

Exhibit of Honey Products (including wax, honey vinegar, mead, &c.).—1st, J. Pearman.

Beeswax (not less than 1 lb.) in One Cake.—1st, J. Stone; 2nd, J. Pearman; 3rd, L. Hill, Sheffield.

Exhibit of Extracted Honey (not over 20 lb.).—1st, J. Pearman.

Twelve 1-lb. Jars Extracted Honey and Six 1-lb. Sections (novices).—1st, J. Bakewell; 2nd, A. Pollard.

Twelve 1-lb. Sections.—1st, J. Stone; 2nd, A. Bayley, Stourbridge; 3rd, W. Ratcliffe, Crewe; h.c., J. Carver, Wellington.

Single 1-lb. Jar Extracted Honey.—1st, J. Smart, Andover; 2nd, Rev. H. Goffe, Caistor, Lincs; 3rd, S. Tembrett, Andover.

Twelve 1-lb. Jars Granulated Honey.—1st, S. Durose; 2nd, J. Stone; 3rd, G. Spearman, Colesbourne.

Single 1-lb. Section.—1st, J. Stone; 2nd, A. Bayley; 3rd, P. Rawson, Market Drayton.

Single 1-lb. Jar Extracted Honey.—1st, J. Smart; 2nd, W. Hatliff, Thoresby Caistor; 3rd, Rev. H. Goffe.

Collection of Bee Appliances.—1st, R. H. Coltman; 2nd, E. H. Taylor, Welwyn, Herts; h.c., S. H. Varty, Colwick, Notts.

SOUTH OF SCOTLAND B.K.A.

HONEY SHOW IN DUMFRIES.

The ninth annual show of the South of Scotland Bee-keepers' Association was held August 31. The entries numbered over 200, and there was close upon 2,000 lb. of honey staged. Exhibits came from various parts of England and Wales, and the quality all through marked a distinct advance on previous years. The judging of the exhibits was in the capable hands of Mr. R. Hamlyn-Harris, Tubingen University, Germany (who is a visitor at Dalry, Galloway), and Mr. W. Latimer, Waterbeck. The judges pronounced the show to be an excellent one, and Mr. Hamlyn-Harris stated that in all his expeaience he had never seen such keen competition. The secretarial duties were admirably performed by Mr. James Kerr, Milldamhead.

The following are the awards :—

Six 1-lb. Jars Extracted Honey.—1st, W. Beattie, Troqueer ; 2nd, J. Harkness, Annan ; 3rd, W. Hogg, Castle-Douglas ; 4th, R. Slater, Hardgate ; v.h.c., E. Staples, Upper Woodford, Wilts ; Rev. H. F. Goffe, Caistor, Lincs. ; G. Spearman, Cheltenham ; and W. G. Dear, Woodford, Wilts ; h.c., J. Muir, Kirkcudbright, and W. Graham, Cummertrees ; c., F. Hendor, Nailsworth.

Six 1-lb. Sections. — 1st, W. Woodley, Beedon, Newbury ; 2nd, J. M'Donald, Lochfoot ; 3rd, G. Spearman ; 4th, J. Carver, Wellington, Salop ; v.h.c., W. Patchett, Caistor, Lincs. ; and W. Hogg.

Single 1-lb. Jar Extracted Honey.—1st, J. Harkness ; 2nd, J. M'Millan, Mossknowe ; 3rd, W. Beattie ; 4th, W. Graham ; v.h.c., J. Muir, Burnfoot, and Jas. Johnstone, Northcote-place ; h.c., James Kerr, Milldamhead, and W. Hogg ; c., W. Hatliff, Caistor, Lincs.

Single 1-lb. Section.—1st, J. Muir ; 2nd, W. Patchett ; 3rd, W. Hogg ; v.h.c., R. Slater and W. Woodley ; c., J. Crichton, Troqueer Cottages, and W. Graham.

Beeswax.—1st, J. Berry, Llanrwst ; 2nd, W. Hogg ; 3rd, Jas. Kerr ; v.h.c., W. Beattie ; h.c., W. Patchett, Rev. E. Charley, Ince Vicarage, Chester, and J. Harkness.

Complete Frame-Hive for General Use (open).—1st, E. H. Taylor, Welwyn, Herts.

MEMBERS ONLY.

Display of Honey.—1st and 2nd, J. Kerr ; 3rd, W. Hogg ; c., S. M'Kie, Dumfries, and R. Slater.

Super of Honey (15 *lb. to* 20 *lb. weight*).—1st, W. Hogg ; 2nd, S. M'Vie ; 3rd, R. Carlyle, Gasstown.

Super of Honey (10 *lb. to* 15 *lb. weight*).—1st, J. M'Donald ; 2nd, J. Brown, Milldamhead ; 3rd, R. Slater ; v.h.c., W. Hogg.

Super of Honey (*under* 10 *lb. weight*).—1st, S. M'Vie ; 2nd, W. Hogg.

Six 1-lb. Sections.—1st, R. Slater ; 2nd, J. Muir ; 3rd, J. Harkness ; v.h.c., W. Graham ; h.c., J. Kerr ; c., W. Hogg.

Twelve 1-lb. Jars Extracted Honey.—1st, J. Harkness ; 2nd, J. Muir ; 3rd, W. Beattie ; v.h.c., R. Slater and R. Hastings, Cleughhead Lodge, Annan ; h.c., J. Crichton, W. Hogg, and R. Carlyle.

Six 1-lb. Jars Light-coloured Extracted Honey.—1st and h.c., J. Brown ; 2nd and v.h.c., W. Beattie ; 3rd, J. Harkness ; v.h.c., W. Graham, R. Hastings, W. Hogg, and J. Kerr ; h.c., R. Slater and J. M'Donald.

Six 1-lb. Jars Dark-coloured Extracted Honey.—1st, S. M'Vie ; 2nd, W. Hogg ; 3rd, W. Beattie.

Two 1-lb. Jars Extracted Honey.—Silver cup, J. Harkness ; v.h.c., J. Boyes, W. Beattie, R. Hastings, J. M'Donald, W. Hogg ; h.c., J. Boyes, Kellieston ; W. Hogg, and Jas. Kerr (2).

Two Frames of Comb Honey.—1st, J. Harkness ; 2nd, R. Slater ; 3rd, R. Carlyle.

Six 1-lb. Jars Extracted Honey.—1st, J. Harkness ; 2nd, R. Hastings ; v.h.c., J. M'Millan and James Hunter, Gasstown ; h.c., R. Carlyle.

Six 1-lb. Sections.—1st, J. Harkness ; 2nd, Miss Muir, Burnfoot, Kirkcudbright ; 3rd, R. Scott, Gasstown.

Four 1-lb. Sections Heather Honey.—1st, W. Hogg ; 2nd and 3rd, W. Ormiston, Biggar ; c., W. Beattie and R. Scott.

Four 1-lb. Jars Extracted Heather Honey.—1st, W. Hogg ; 2nd, W. Beattie.

Twelve 1-lb. Sections.—1st (silver medal), J. Crichton ; 2nd, J. Muir, Burnfoot ; 3rd, W. Hogg ; v.h.c., J. Kerr.

Six 1-lb. Sections.—1st, J. Muir ; 2nd, R. Slater ; 3rd, W. Hogg ; v.h.c., J. M'Donald, J. Harkness, J. Johnstone, and J. Kerr ; h.c, W. Beattie and W. Graham.

Super of Heather Honey.—1st, W. Hogg ; 2nd, R. Carlyle ; 3rd, R. Scott.

Observatory Hive, with Queen and Bees.—1st, Jas. Kerr and W. Hogg, equal.

Three 1-lb. Jars Extracted Honey.—1st, Jas. Rilley, Maxwellbank, Troqueer ; 2nd, Jas. Johnstone ; 3rd, Miss Muir ; h.c. J. Crichton.

Three 1-lb. Sections.—1st, J. Crichton ; 2nd, Miss Muir ; 3rd and v.h.c., J. Johnstone.

Super of Honey (*under* 10 *lb.*)—Miss Muir.

Special for Best Extracted Honey in the show (confined to members).—Silver medal, J. Harkness.

CHESHIRE B.K.A.

HONEY SHOW AT BRAMALL.

The Bramall and Woodford District Horticultural Society held its annual show on September 7 in the picturesque grounds of Bramall Hall, by kind permission of Chas. H. Nevill, Esq., J.P.

The show was a great success in every way, the entries in all sections being considerably in advance of previous years.

Mr. Frederick H. Taylor, Fallowfield, Manchester, gave a lecture and demonstration in the bee-tent, under the auspices of the Cheshire

County Council, and drew a very large audience, the weather being all that could be desired.

Mr. Taylor also officiated as judge, and made the following awards :—

Twelve 1-lb. *Sections* (2 entries).—1st, Wm. Ratcliffe, Barthomley, Crewe ; 2nd, no award ; 3rd, Septimus Wright, Wilmslow.

Twelve 1-*lb. Jars Extracted Honey* (17 entries).—1st, Arthur Kenstead, Ince, Chester; 2nd, Wm. Ratcliffe ; 3rd, G. Latchford, Macclesfield ; h.c., W. P. Young, Patricroft ; J. H. Glover, Bramall ; W. H. Terry, Birkdale ; J. Turner, Bramall ; c., Mrs. J. C. Bull, Bramall.

Beeswax (5 entries).—1st, Wm. Ratcliffe ; 2nd, J. Turner ; v.h.c., Septimus Wright.—(*Communicated.*)

HONEY SHOW AT CROSSGATES (LEEDS) FLOWER SHOW.

The entries in the honey class connected with the annual flower show have only been very few in previous years, but this year there were fourteen exhibitors. The quality of the honey was first rate, all being almost uniformly good. Mr. W. Dixon, Leeds, acted as judge and made the following awards :—

Four 1-*lb. Jars Extracted Honey.*—Equal 1st, A. Heaton, Stanks, Crossgates, and J. Lancaster, Arthington ; 2nd, Darcy R. Grimshaw, Crossgates ; 3rd, Walter Spink, Crossgates.

Four 1-*lb. Sections.*—1st, A. C. Jamieson, Dringhouses, York ; 2nd, J. Leatherborough, Stanks ; 3rd, James Marshall, Garforth.

A special prize was awarded to J. Marshall, of Garforth, for his exhibit of this season's heather honey.—(*Communicated.*)

LANCASHIRE B.K.A.

HONEY SHOW AT CARTMEL.

The first honey show in connection with this Agricultural Society was held on the 10th inst., and attracted a considerable number of entries. Mr. Frederick H. Taylor, of Fallowfield, Manchester, judged the honey, and also gave several lectures on bee-keeping, under the auspices of the Lancashire County Council during the day.

AWARDS.

Six 1-*lb. Sections* (open class, 22 entries).—1st, John Canver, Wellington, Salop ; 2nd, R. North, Kirkby Lonsdale ; reserve No., Thos. Walker, Esthwaite ; v.h.c., Thos. Walker, Miss L. Wilson, Morecambe ; h.c., W. Clark, Grange ; J. Jones, Carnforth ; and W. J. Ireland, Kendal.

Six 1-*lb. Jars Extracted Honey* (open class, 23 entries).—1st, W. Forrester, Huyton ; 2nd, John Pennington, Heswall ; reserve No., Miss L. Wilson ; v.h.c., Robt. Rymer, Hesketh Bank ; Wm. Cookson, Hesketh Bank ; h.c., W. A. Cook, Hesketh Bank ; W. Lloyd, Lancaster ; A. Fox, Bandsea ; T. J. Burns, Greenodd ; and J. Jones, Carnforth ; c., W. Lloyd.

Exhibit of Honey Gathered in the County.—1st (L.B.K.A. silver medal), W. Forrester ; 2nd (L.B.K.A. bronze medal), Thos. Walker.

Exhibit of Honey Gathered in the District.—(Prize, frame-hive), W. Clark, Grange-over-Sands.

Beeswax.—1st and 2nd, Thos. Walker ; v.h.c., Thos. Barrow ; c. A. Fox.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4491.] *Selling Honey.*—Now that the season's honey-crop is gathered in and the hives are relieved of their burden of surplus honey, the busy bee-man is intent on marketing his produce or preparing it for sale. If it is in extracted form I would counsel putting it up in such shape as suits the proved requirement of the trade the individual bee-keeper has secured. If 1-lb. jars are demanded put the year's crop in that size jar. All our up-to-date appliance dealers supply these jars—"tie-overs" 12s., or "screw-cap" £1, per gross. These, if filled and sold at 9s. or 9s. 6d. on rail, or 9s. 6d. or 10s. delivered, pay fairly well, but the honey at this price should be good, ripe, and full flavoured, bright and clear ; and other qualities at 1s. per dozen less. As time goes on, if the stock is not sold out, the clear liquid honey will begin to granulate either in the producer's or in the retailer's hands, and "granulation" should be constantly preached as a sign of pure honey free from adulteration. The producer should always call the attention of customers (wholesale or retail) to the fact that pure, ripe honey ought to crystallise in cold weather or at the beginning of winter. He should also ask all purchasers to store honey in a cool, dry place. If the demand is for larger packages, say tins holding from 4 lb. up to 28 lb. each, place your honey in the sizes most likely to be required ; this will save a lot of work and some worry later on, especially in the case of a man of many jobs. The larger size tins holding ½ cwt. or 1 cwt. for sale in bulk meet the wants of those who sell in bulk for others to put into glass jars.

Comb-honey in sections should have the wood of sections scraped clean of propolis and scraps of wax, such as brace-combs, which are found mostly in those worked in racks when the "slats" are too thick, or when the previous year's accumulation of brace-combs and propolis combined makes the removal a task

rather than a pleasure. This neglect makes the section-racks practically fixtures, which require a prising tool to loosen them, and this often rouses up the bees to a furious condition, and neighbours may come in for a share of the stings inseparable from this state of affairs. It also severs a close "neighbourliness," and it will take some of your sections to mollify matters to the *status pro quo*. After the sections are cleaned they should be graded and stored till required in a dry, clean, warm closet or cupboard; if no facilities are at hand for this purpose the racks in which the sections are worked make very good storing-crates for packing them away in till wanted, if lined with paper after scraping and cleaning them. When the sections are arranged in position lay a piece of paper over the top and down in front of the sections, then insert the "follower" and the wedge or spring to hold all tight. Thus filled, the storing-crates can be placed one above the other without injury to the sections if the sides and ends are the same height as the sections. If not, a strip of thin wood on either side will level up to the required height to prevent pressure on the sections.

Queen-Introduction.—This should be attended to at once if not already done; those of our friends whose bees have been at the heather may be excused for not attending earlier to this important part of bee-keeping, but it should not be delayed any longer, for it is in many cases laying the foundation of next year's success to attend to queen-introduction as early in the autumn as possible. Some queens I introduced in August are now building up strong colonies, which will go into winter quarters with a large number of young bees, whose work will be shown in next year's record. I would also again impress on the novice to attend to the autumn examination of his hives, and if all is well close them down as early as convenient for the period of rest so necessary to the well-doing of the bees. Do not forget to keep a "record" in each hive, and those who possess a large apiary should number the hives and place the number on the card. This saves confusion if records get misplaced.

Honey Shows and Rail Charges.—Referring to the red label marked "Glass," mentioned in my "Notes" on page 352, one of the stewards of the show in question writes me that "the red labels were on my boxes on arrival at the show," so that exonerates the show committee in this particular case, though why the railway company's servants should be so solicitous for the safe conveyance of my exhibits to this show, when the goods were sent at "sender's risk," passes my comprehension. Perhaps other readers who sent honey from a distance to Chester show will please say if they received the same attention. I am inquiring at Newbury end of the journey if the labels were affixed before despatch, and why.—W. Woodley, *Beedon, Newbury.*

DISQUALIFIED EXHIBITS.

OVERLACING SECTIONS AT THE "CONFECTIONERS'."

[4492.] In response to the earnest editorial appeal, on page 331 of B.B.J. for August 23 last, for support at the coming big honey shows in London, I sent entries for the "Grocers'" and "Confectioners'" Exhibitions respectively. I hear to-day that my twelve 1-lb. sections, in Class 102, were awarded first prize of £2, silver medal, &c., but were afterwards disqualified for exceeding by $\frac{1}{16}$ of an inch the width allowed for lace edging. It is very discouraging to be knocked out at an important show for such a trivial matter as $\frac{1}{32}$ of an inch too much on each side of sections. I am told that there was nothing in the shape of sections at the show in question to touch mine for quality, and consequently I am very much surprised at the "objection" being upheld. I consider it was what I may term "unsportsmanlike," and not very creditable on the part of my brother bee-men to cut me out entirely for such a trivial matter. I still think my sections show $3\frac{1}{2}$ in. of clear glass, as required by rule in schedule.

I hope to be in London in a few days' time, when I will measure glass to make quite sure.

If, from any reason, you are unable to publish this letter in the B.B.J., I hope you will kindly make known through its columns that my sections were awarded first honours, and were subsequently disqualified for the reason stated above.—Anthony Bayley.

[There is no reason why we should refuse to publish the above letter; indeed, we are pleased to see it in print, as affording an opportunity not only for putting our correspondent right with regard to his own exhibit, but of offering a word of advice to exhibitors generally on the question of "overlacing" sections intended for the show-bench.

First then let us say that whoever told Mr. Bayley that his sections were "awarded 1st prize, but were afterwards disqualified" and all the rest of it; also that there were "no sections at the show to touch his" for quality, &c., must have been drawing upon his own imagination for his statements. As a matter of fact, when commencing judging, some half dozen lots of sections were at once observed to be glaringly "overlaced" with paper-edging and were immediately put out of the competition. It never went further than the judges expressing—to each other—regret that exhibitors should be so inexcusably careless as to disqualify their own exhibits by leaving, in most cases, nearly $\frac{1}{2}$ in. less of comb surface clear of paper than the schedule allowed. The rule lays down that "$3\frac{1}{2}$ in. by $3\frac{1}{2}$ in. of glass must be clear of paper edging," and in no case in which the sections were measured was the infringement so slight as $\frac{1}{32}$ or even $\frac{1}{16}$th of an inch as is stated above.

We need say little else beyond making it plain that any judge possessing the courage of his convictions would have had no hesitation in disqualifying the exhibits referred to; but it is doubly annoying to a conscientious judge when he finds that exhibitors in their eagerness to hide every possible defect, will—as on the occasion referred to—actually cover up comb-capping that is almost perfect in finish. The question arises, Why this anxiety to *overdo* it? If a slip is made at all, why is it always on the wrong side? The anxiety should be to err (if at all) on the right side, and leave *more* than the clearly defined 3½ in. clear of paper edging.—EDS.]

HONEY SHOW MANAGEMENT.

THE COST OF EXHIBITING AT SHOWS.

[4493.] In your issue of the 5th inst. Mr. Woodley makes some sensible remarks in his "Notes by the Way" (page 352) in regard to showing honey and the expenses entailed by doing so. As Mr. Woodley specially mentions the charge made for the return of his exhibits from our show at Chester, I may take this opportunity of saying that, though I have not asked them, I do not think that the addition of a red ticket marked "glass" was due to the anxiety of the stewards. Perhaps some more zealous railway official was the offender. As regards the general question of returning exhibits at "half-rate," I quite agree with Mr. Woodley. But whose fault is it that it is not more generally done? In some few cases the stewards, who have overlooked a return label marked "owner's risk" or "agricultural produce rate," may be deserving of blame.

In most cases, however, blame does not attach to them. During the last two or three years I have done a fair amount of unpacking and repacking in connection with our Cheshire shows, and I have been struck by the fact that it is only very occasionally that exhibitors either enclose labels marked for return at the reduced rate, or endorse the labels supplied by the secretary to the same effect. Without such authority, stewards cannot be expected to undertake the responsibility of sending back exhibits at half-rate. Suppose that they do so, somebody's first prize sections are smashed on the journey, and the railway company denies any liability, will not the exhibitor have something to say, not sweet, but strong? Will not the stewards have placed themselves in an awkward position by their well-meant effort to save the exhibitor's pocket?

Indeed, the possibility of sending honey at this reduced rate, which is, I presume, allowed by all the chief railway companies, does not appear to be as well known as it might be. I have been able to point out the advantage gained by it in the reduction of the cost of carriage to several bee-keepers within the last month or two. Station-masters may perhaps at first deny the existence of the reduced rate, but the consignor should insist upon it.—REV. E. CHARLEY, Hon. Sec. Cheshire B.K.A., *Ince, near Chester, September* 14.

THE PALACE HONEY SHOW.

KENT AND SUSSEX B.K.A.

[4494.] May I remind friends that entries close this month for the Kent and Sussex annual show which is to be held at the Crystal Palace on the same days as the great fruit show of the Royal Horticultural Society, October 10, 11, and 12? All exhibitors get a free pass, and therefore the peculiar satisfaction of getting "something for nothing." Our county beekeepers will have the opportunity of visiting the Dairy Show, and then going on pilgrimage to Sydenham. It is new for the K. and S.B.K.A. to hold a show so late in the season, but the lateness is rather an advantage except that shallow frames will have to be kept out of the extractor a little longer than common. We want to make trophies and observatory hives special features. Schedules of Mr. H. W. Brice, Brigstock-road, Thornton Heath. There are many beekeepers who are fruit growers—like Mr. Brown, of Somersham—and they ought to enter their fruit at the Palace as well as their honey. The Royal Horticultural schedule, like the K. and S.B.K.A. schedule, is most liberally framed. R.H.S. schedules of Rev. W. Wilks, Sec., 117, Victoria-street, S.W.—E. D. TILL, *Eynsford, September* 16.

SURPLUS FROM DISEASED STOCKS.

[4495.] The hive from which I took the comb (sent some weeks ago) has worked well this summer, yielding about 60 lb. of honey and three swarms. I am rather afraid of two other stocks I have in frame-hives, but I could not get any brood from them to send you, being too timid to venture "down below." Another hive this year gave me 89 lb. of extracted honey and a rack of sections, all filled. The swarms did not yield any surplus, but have enough, I believe, for themselves to winter on. The honey is of good quality—clover, with a little mixture of heather. I give most of mine away. But my gardener, to whom I have given shares in the "concern," finds a ready market for it at 1s. per 1-lb. jar, and 10d. for those who bring their own jars.

I wish we could form an Association in this county, and get an expert to visit us occasionally. I am very much afraid that ignorance on this subject is one great means of the spread of foul brood.—CYMRAES, *Anglesey.*

[Seeing that only a few cells in comb sent contained diseased matter, it is not surprising that the colony made a good return in surplus honey. Nor should we now advise destruction of the stock by any means. If preventives are used, and a careful "look-out" kept on the hatching brood in the early spring of next year, it is quite possible that the bees may rid themselves of the disease altogether.—EDS.]

SOME ESSEX NOTES.

[4496.] *Taking in Bees from a Farmhouse.*—Six feet high without his boots, Hodge in harvest time is a busy man. Lifting a corner of the window blind he sees the rising sun, and turning to Mrs. H., says, "Wa, till nivver do ta burn the daylight; put the candle out." It was just then that we—*i.e.*, a friend and myself—arrived. I think this explanation necessary, for however good a smoker one may possess (we were prepared with the good one that we expected to require), the beeman's smoker does not with him take the place of the editor's pen. For though the smoker may be large and of formidable appearance, it is comparatively small in ability to assist in doing good or ill. The day was thus in its infancy when we made our attack; the job had been "put up," as a cracksman would say, some time before. It was a surprise at dawn on the strongholds of colonies of bees occupying the spaces between the inner and outer walls of a farmhouse. After making a forced march and camping in the neighbourhood overnight, we had with us every appliance that could possibly be needed—at least we thought so; but, being somewhat deceived by the bees, our attack was made in the wrong place. Instead of just removing the tiles nailed on the upper half of the house, like scales, and striking our quarry at once, a hammer and chisel were necessary, for the bees had the entrance to their home and store above them. It is due to the plasterers of other days to say that the plaster on those walls had to be cut off inch by inch. Beginning above the bees we laid open to view combs 6 ft. deep, and containing about 1 cwt. of honey. As usual, the combs were worked downward, being added to each year, and more or less old honey left unconsumed each year till much of it was worthless. Having reached the bottom of the space immediately available, the brood had lately been reared in an outside comb. There was a 4-ft. length of comb occupied with brood and eggs, and such a colony of bees as is seldom seen in a hive; drones, too, at the end of August, in this case an evidence of strength and prosperity. There was food, ample and to spare. Why turn them out? But in modern bee-keeping the presence of drones at the date referred to is an evidence of indifferent bee-keeping. When engaged on such a job, I make it a rule, if possible, to secure the bees first; but these bees were so numerous, that the bulk of them found a way to escape into the next space; so, driving the bees upwards, we cut and removed their combs, and secured the bees afterwards. There was some cutting and driving too. The effect of the hammer and chisel had been not only to remove the plaster but to subdue the bees too, so we put off our veils; for with dripping honey falling in our faces we were glad to do without them. Then the wasps, of which there were known to be about a dozen nests within a few hundred yards of the farmhouse, began to make things much more lively for us than did the bees. It gave us great pleasure to find the bees so clean and healthy, and the only thing that we could regret was the absence of the "man with the camera." We had a similar job on two mornings later at the same house. In one case the combs were again 6 ft. deep, and the other was a swarm that had entered this year. The wasps profited by their experience of the first morning and came in hundreds, both myself and friend being stung by them.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

WEST INDIAN BEES AND HONEY.

HONEY ALL THE YEAR ROUND.

[4497.] In relation to the letter in B.B.J. of August 22 (4471, page 335) and the statement by a gentleman from the West Indies, who had declared that bees in these islands had ceased to store honey, it might be of interest to your correspondent and others to be informed that what is known as "Jamaica honey" is sold in bulk in London at the present time.

Presumably this honey is gathered and stored by West Indian bees, or is it another case of manufactured stuff to defraud the public?

It is of a deep amber colour, fairly clear, rather poor in consistency, very little aroma, flavour undecided, but seeming to me fruity, especially reminding me of orange pips, and also slightly of wood and smoke (it is imported in wooden barrels of 3 cwt. capacity); it leaves a decided "tang" in the mouth, and already shows signs of commencing ganulation. I enclose a sample. Please, Mr. Editor, correct my description, if necessary. [We quite agree with you.—EDS.]

Now for the most important point to us as bee-keepers and honey-producers—this honey can be bought in London at 27s. per cwt.! or less than 3d. per lb.! and when grocers can obtain this at such a price, and we want at least double (and I should be sorry to sell mine at even that figure) is it likely that they will purchase from us to supply a public who are, for the most part, uneducated as to the relative merits of British and foreign honey?

It seems to me that the only thing we can do is to impress upon the public that as the flavour and food value of home-grown fruit is well known and acknowledged to be, in general, so superior to foreign products, so the honey gathered at home must be greatly superior to the generality of foreign honies, as well as far more likely to be free from adulteration. — A. ARNOLD KING, *Silverhill, St. Leonards-on-Sea.*

THE LIMES IN CASIOBERRY PARK.

[4498.] Miss Gayton's letter on page 366 of B.B.J. for September 12 is very interesting. Last month I was in Casioberry Park, and remarked the wonderful profusion and size of

the seed-vessels on the limes in the great avenue. The honey gathered therefrom has that pronounced aromatic flavour common to lime honey in greater degree than ordinary.

The avenue was planted by Le Notre, gardener to Louis Quatorze. It is a noble arcade, but Le Notre did not allow sufficiently for expansion, a common fault in planting. There are three trees where one would have done better. All are of giant size and fairly sound, but they are past their prime.—E. D. T., *Eynsford, September* 16.

FREE SEEDS OF HONEY-PLANTS.

[4499.] I shall be pleased to supply bee-keepers with seeds of "Chapman's Honey Plant" or the "Globe Thistle" on receipt of a stamped addressed envelope, if you will kindly make it known through the BEE JOURNAL.—J. QUARTERMAIN, *Tenby.*

Queries and Replies.

[2720.] *Non-Swarming Hives and Swarm-Catchers.*—I shall feel obliged if you will reply in the B.J. to the following:—1. Am I right in assuming that a non-swarming hive consists merely of an ordinary hive having a box of frames underneath the brood-nest to receive the surplus honey, with a sheet of excluder-zinc between the two? 2. Have you any knowledge of a "swarm-catcher" in which the bees must leave and return to the hive through the chamber containing the sheets of comb-foundation? Do you think the bees when returning to the hive would be more likely to cluster with the queen in a swarm-catcher of this make than in one to which they would have to return to her by an entrance other than the one by which they left the hive? 3. Where would I be likely to procure the brass springs such as are used in the "Porter bee-escape"?—VERACITY, *co. Carlow,* August 11.

REPLY.—1. A non-swarming hive means a hive in which the special arrangements of the designer or inventor are supposed to prevent the issue of undesirable swarms. The style of hive you refer to above is only one of many forms that have been devised for the purpose stated. 2. Several "swarm-catchers" we know of are fitted with frames of foundation, and being fixed in front of the ordinary hive entrance, the bees must perforce pass through the "catcher" when going out of and coming in to the hive proper. 3. An ironmonger could tell better than us where to obtain the springs mentioned, but if you place any value on our advice we say, *buy* your "Porter bee-escapes." Home-made ones will probably be worse than useless when made.

[2721.] *Removing Skeps from Frame-Hives after Transferring.*—Will you kindly advise me in the following case:—On May 30 I placed a skep (the bees of which I wished to transfer to frame-hive) upon top bars of a frame-hive prepared as directed in the "Guide Book," and left it till the second week in August. I then lifted the skep and placed a cloth beneath to sever all connection with the hive below, and left the bees to go out through the "cone" in roof, there being a feed-hole in top of skep. On examining them the next day, I found the bees still in skep, and therefore concluded they had gnawed through the cloth beneath them and so re-established communication with the frame-hive below. On Friday, September 13, I again lifted the skep, this time placing a super-clearer beneath. I also stopped the feed-hole in the top of skep. Next day (September 14) I fully expected to be able to remove the skep free of bees, but I found them there as thick as ever. I have six frame-hives, and so far I have had no trouble in taking off supers, but this lot of bees are very fierce, and having had no previous experience in "driving" I am loath to begin upon so bad tempered a lot. I shall be glad if you will kindly tell me what I had better do.—(Miss) E. H., *Salisbury, September* 15.

REPLY.—Since the bees are vicious, and you are inexperienced in "driving," that operation may be entirely dispensed with by first assuring yourself that the queen is in lower hive, then cutting off communication (effectually, of course) with the lower hive and allowing the bees to escape through the "cone" in roof. It is about certain that there will not be any brood in skep at this late season, and if the queen is all right in lower hive, you may let the bees in skep make their way out and return to the lower hive at will, and in their own time.

[2722.] *Adding Formic Acid to Honey.*—1. I should like to extract the honey from some shallow-frames (which are partly filled, and capped here and there) and keep the honey. I believe this can be done by adding formic acid to the honey in very small quantity; but I should like to know whether you can tell me the approximate proportion of acid. 2. Also how to mix it up efficiently with the honey. 3. Kindly give me your opinion of two samples of honey herewith.—SANDY.

REPLY.—1. It is generally understood that bees add a minute quantity of formic acid to each cell-full of honey before sealing it over. But with regard to bee-keepers doing the same thing with the object of causing the honey operated on to keep well, it is a mere fanciful notion, and not worth consideration. 2. The above reply covers this question. 3. Sample A is a nice, well-ripened honey—flavour, colour, and consistency being all good. The other sample (B) is fairly good, but does not equal A. Both are good saleable honeys.

Echoes from the Hives.

Glenmay, Isle of Man, September 14.—Honey gathering has ceased here since the the third week in August. Although clover did not make nearly so good a show this year as last, yet the splendid weather of July enabled my bees to store an unusually large quantity of very light-coloured honey. August was a poor month for storing honey. The exceedingly hot and dry weather of July parched the ground, and consequently we had the poorest display of heather-bloom I ever remember. The earlier variety (bell heather) blossomed fairly well, but the period of flowering was of short duration. The *Erica vulgaris* (ling) was a failure. In consequence, our heather honey crop is below the average and quality not so good as usual, owing to showery and cold weather.—LANCELOT QUAYLE.

Bee Shows to Come.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades.

September 28, at Jedburgh.—Roxburghshire B.K.A. Annual Autumn Show of Bees, Hives, Honey, &c. Twenty-three classes (including eight open classes) for Bees and Bee Produce. Schedules from Thos. Clark, Pleasants, Jedburgh, N.B. **Entries close September 24.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for hives. Schedules from J. Palmer, Hon. Secretary, 17, Brandlane, Ludlow. **Entries close November 5.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. KREIGSHEIM (Bienne, Switzerland).—*Insect Nomenclature.*—We forwarded your specimen to our esteemed contributor on entomological matters, Mr. F. L. Sladen, who writes regarding it as follows:—"The insect sent is so badly crushed that it will be difficult to identify it. It is interesting-looking, and I will try to find out what it is when I get to Medina, U.S.A., where I am now going for a visit. If your correspondent could in the meantime secure and send me some uncrushed specimens and send them in a little tin match-box, together with any well-ascertained facts he knows about it, I will go into the matter as fully as I can, and if the insect is of sufficient interest I will send an illustrated account of it to you."

APIS MELLIFICA (Bletchley).—*Varieties of Heather.*—By referring to B.J. of August 15 (page 327) you will see full illustrated description of British Heaths, and that the heather sent is *Erica*, or *Calluna vulgaris* (common ling).

H. F. G. (Bedale).—*Bee Nomenclature.*—Bees are well-marked Ligurians. The first lot sent failed to reach us.

(Rev.) V.S. (Blundford).—*Honey and its Uses.*—The pamphlet, "Honey and its Uses," is published by the Rev. G. W. Bancks, The Green, Dartford, price 1½d., post free.

C. HEAPS (Lancaster).—*Wild Bees.*—The specimen sent is one of the native wild bees of Britain. It belongs to the genus *Andrena* (variety *fulva*).

MAUD MARSHALL (Epsom).—*Curious Sounds in Hives.*—Only an examination of the hive and coverings to frames could afford any clue to the production of the peculiar noises you have heard. It may be some spot under the quilt where a bee can get "fast" for a time just as when being crushed. You might re-arrange the quilts and see if that puts a stop to the sounds.

Honey Samples.

D. A. WHALE (Wood Green, N.).—Your sample is excellent in colour and consistency. It has a slight "minty" flavour, characteristic of lime-honey.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," "not Manager."

W. JOBSON (Stoke Newington).—There is no trace of disease in comb sent. The cells are nearly all half filled with fresh wholesome pollen, and the one or two dead larvæ are "chilled" only.

L. M. (Abey, Mon.).—Foul brood is developing in sample No. 1. The other piece of comb—No. 2—is free from disease.

VERONICA (Devon).—Comb is affected with foul brood, but the disease seems not to be of very virulent type.

S. C. P. (N.B.).—Comb is badly diseased with "F.B." of old standing.

Special Prepaid Advertisements.

Twelve words and under, Sixpence; for every additional Three words or under, One Penny.

SPLENDID HONEY FOR SALE, 6d. per lb.; tins and package free. GEORGE THOMPSON, Helpringham, Heckington. I 34

CLOVE PINKS, pure White, large pink blooms with black stripe, 100 slips, 2s. WOODS, Normandy, Guildford. I 33

MEADOWS' EXTRACTOR, used once, 12s. 6d.; takes sections or frames. PYNE, Cloughton, Yorkshire. I 24

PRIMULA SINENSIS, good strain, ready for 48's, 1s. 6d. doz. Carriage extra. CANNABY, Ettington, Stratford-on-Avon. I 23

HONEY FOR SALE.—Finest quality, 6d. lb. Tins and crates free. Samples 2d. H. MAY, Kingston, Blount, Wallingford. I 35

PURE ENGLISH HONEY, 56-lb. tins, 5d. lb. Tins free (second quality). HARDY, Oak House, Great Yeldham, Halstead, Essex. I 30

FINEST EXTRACTED HONEY, in 28-lb. tins, 6d. lb. Tins free. Sample, 2d. Cash or deposit. DUTTON, Terling, Essex. I 31

FINE healthy tested tertile 1901 QUEENS. 3s. 6d. each. Post free. C. WHITING, Walley Apiaries, Hundon, Clare, Suffolk. I 27

WANTED, SIX pure CARNIOLAN QUEENS, 1900 or 1901. Full particulars and lowest price to WHITE, Newton Toney, Salisbury. I 22

TWO strong Lots of DRIVEN BEES WANTED, in exchange for half cwt. of Soiled Sugar. WALLACE, Shinnelwood, Bramhall. I 28

BEST YORKSHIRE HEATHER HONEY; bulk, comb or bottles; any quantity. HOOD, White Heather Apiary, Pickering. I 25

HEATHER HONEY.—400 lbs. FOR SALE, in screw-top glass jars, in bulk, or in shallow-frames. Sample, 3d. post free. COTTERILL, Bowdon, Cheshire. I 20

DRIVEN BEES, with Queen, 1s. 3d. lb.; strong Stocks in straw skeps; 1901 Fertile Queens, 11s. 6d. each; guaranteed healthy. Fertile tested Queens, 2s. WOODS, Normandy, Guildford. I 32

25TH YEAR.—Small SWARMS, 5s. 6d., package free. 1901 tested QUEENS, 3s. 9d., delivered, in introducing cages. ALSFORD, Expert, Blandford. I 26

HONEY.—One cwt. good light-coloured clover HONEY, newly extracted, 56s. Sample, 2d. TEMPLE, Two Beeches Farm, Hemel Hempstead, Herts. I 36

PURE WELSH HONEY.—One gross of 1-lb. screw-cap jars, fine colour and quality, £5 to clear, or 9s. per doz. on rail at Mold. PUGH & SON, Mold, North Wales. I 21

200 WHITE CLOVER SECTIONS and 150 lbs. run HONEY. What offers? 20 Section-racks (Neighbour's), 1s. 3d. each, or would exchange for 15 shallow-frame boxes. OLDHAM, Stanford Rectory, Worcester. I 29

FOR SALE, CHEAP (Owner going abroad next month), Eight good STOCKS of BEES in standard-frame hives. Have yielded well this season and are now well provisioned for winter. Inspection invited as to healthiness and condition. Also Three-frame OBSERVATORY HIVE, made by Jas. Lee, and can be seen at his address, 10, Silver-street. "British Bee Journal," complete from first issue in 1874 up to present date; most of the volumes are well bound and in good order. Several bound volumes of "American Bee Journal," and of "Gleanings in Bee Culture" (American). No reasonable offer refused. Address, JOHN M. HOOKER, 25, Tressillian-road, St. John's, S.E.

Prepaid Advertisements (*Continued*).

SECTIONS and EXTRACTED HONEY FOR SALE. Good quality. ED. BAILEY, Cheveley, Cambs. I 4

HEATHER HONEY LABELS, 9d. 100., 3s. 1d. 500. GUEST, King's Norton. H 84

PRIME HONEY FOR SALE; Sections, 7s. 6d. per dozen; Extracted, £2 16s. cwt. HARRY SWIFT, Churchdown, Cheltenham. I 10

DRIVEN BEES.—Strong STOCK with Queen, 5s.; package returnable. PHILLIPS, Spetchley, Worcester. H 7

STRAWBERRY PLANTS, 1s. 100, 7s. 6d. 1,000; early variety. Buy hardy northern stock. RAITT, Blairgowrie. I 18

WANTED, DRIVEN BEES in Exchange for Appliances. Guaranteed. GUTHRIE BROS., Alloway, Ayr. I 7

EXCELLENT HONEY, fine Heather-blend, 28-lb. tins, 7½d. lb. Tins free. Sample, 3d. LANCELOT QUAYLE, Glenmay, Isle of Man. I 3

SPLENDID NATIVE and LIGURIAN 1901 tested QUEENS, 5s. each. GUTHRIE, Alloway, Ayr. H 80

ONCE TRIED ALWAYS USED. Our Solar Wax Extractor should be in every Apiary. A perfect success. No. 1, 12s. 6d. MANAGER, Hardham Apiary, Pulborough. G 78

QUEENS, STOCKS, NUCLEI, and SWARMS. 14th season of queen-rearing as a speciality. Fertile queens, 5s. each, post free. Rev. C. BRERETON, Pulborough, Sussex.

WANTED, by young man, SITUATION as ASSISTANT in a bee and fruit farm or garden. Bee expert. Total abstainer. SHORT, Fore-street, Kingsbridge, Devon. I 8

WANTED, 100 QUEEN BEES and 100 DRAGON FLIES, or any smaller number, and largest Grasshoppers. BONNER CHAMBERS, Diptford, S. Brent, S. Devon. I 11

GARNETT'S original, air-tight, screw-cap HONEY JARS, six dozen, 7-oz., 8s. 9d.; ten dozen, 16-oz., 16s. 9d., cash. Packed free. GARNETT BROS., High-street, Rotherham.

PROLIFIC QUEENS.—Imported Carniolans and Italians, 5s. 6d. each; home-raised ditto, 5s.; common, 3s. 6d.; Stocks, Swarms, Nuclei headed by any variety queen at fair prices. E. WOODHAM, Clavering, Newport, Essex. I 13

EDWARD'S PEDIGREE QUEENS, record-creating, non-swarming strain; autumn-raised, 4s. each, post free, in new introducing cage. Selected Queens, 5s. 6d. Orders now booked. Shrubshill Apiary, Sunningdale (late "Beecroft," Ashford).

COMFORTABLE APARTMENTS for brother bee-keepers visiting Douglas. Terms: tea, bed, and breakfast, 3s. 6d.; or full board, 5s. per day. HORSLEY, Merridale House, Top of Castle Drive, Douglas, Isle of Man. 932

LACE PAPER for SECTION GLAZING. White 1 in. wide, in three neat patterns, 100, 7d., 200, 1s. 2d., 300, 1s. 6d., 500, 2s. 3d., 1,000, 4s. Also LACE BANDS, White, 3 in. wide, lace both sides, 100, 1s. 3d., 200, 2s. 3d., 300, 3s.,; Pink, 3 and 3½ in. wide, 100, 1s. 6d., 200, 2s. 9d., 300, 4s.; Pale Green, 3 in. wide, same price as Pink; all post free. The alterations above are owing to colours and widths being cleared for this season. W. WOODLEY, Beedon, Newbury.

GARNER'S
BEE HIVES & APPLIANCES.

Best in Quality. Moderate in Price.

HONEY and WAX EXTRACTORS, RIPENERS, HONEY TINS, BOTTLES, &c.

Quantity of Surplus Stock to be cleared, cheap. State wants.

STEAM HIVE & APPLIANCE FACTORY,
Dyke, Bourne.

Editorial, Notices, &c.

THE GROCERS' EXHIBITION.

HONEY SHOW AT THE AGRICULTURAL HALL.

The sixth annual Exhibition of the Grocery and Allied Trades, following, as it did, closely on the "Confectioners'," was a marked improvement on its predecessor. Not only were the entries in every class appreciably larger, but in some classes—notably that for light-coloured extracted honey—we question if the number of entries (68) has ever been exceeded at any show in the kingdom; and certainly in all our experience we have never yet seen a finer display of British honey, comb and extracted, than is staged this week at Islington. Another improvement was keeping the honey altogether. At the "Confectioners'" this could not be managed, owing to sufficient space not being available in one place, and the display suffered in consequence, but we now have the whole honey section in the gallery, and with plenty of room for viewing it. No complaint could, therefore, be made in this respect. The trophy class was an exceedingly good one, forming a "show" in itself. Nor could it be said that by debarring winners at the "Confectioners'" from competing here there was the slightest deterioration in the trophies staged; and few competent judges will say that those now under notice suffered by comparison, good as were those staged at the "Confectioners'."

We cannot, of course, suppose that the "rather strong shaking up of exhibitors," as a correspondent puts it, on page 371, "had any effect on the entries; but there was this time no case of "two exhibits for four prizes," or "four entries for an equal number of prizes." In no class were there less than ten entries, while the two most important classes—viz., sections and light extracted honey—produced between them only one short of a hundred entries.

We are, therefore, glad to chronicle a solid success for the show, and it only remains for "The Dairy" to "go one better," as the phrase goes, on the 8th of next month, and that we shall see a good show at the Crystal Palace the same week, in order to render the London honey shows of 1901 memorable as a sign that bee-keeping is making progress.

Messrs. W. Broughton Carr, London, and T. I. Weston judged the exhibits, and made the following

AWARDS.

Honey Trophy, or Display of Honey and Honey Products, staged in suitable form for a tradesman's window (10 entries).—1st—£4, with B.B.K.A. Silver Medal and Diploma—A. Bayley, Woodsley, Stourbridge; 2nd—£3, F. W. Woodley, Camp Stores, Compton, Newbury; 3rd—£2, H. W. Seymour, Market-place, Henley-on-Thames; 4th—£1, C. H. Poulton, Aspenden, Buntingford; v.h.c., E. Bontoft, Caterham Valley, Surrey, and G. W. Kirby, Longwell Green, Bristol; c., R. Holbourn, Tetbury, Glos., and C. T. Overton, Crawley, Sussex.

Twelve 1-lb. Sections (31 entries).—1st—£2, with B.B.K.A. Bronze Medal and Diploma—F. W. Woodley, Camp Stores, Compton, Newbury; 2nd—£1 10s., A. Bayley; 3rd—£1, Rev. E. R. Iremonger, Clatford Vicarage, Andover; 4th—15s., R. Barber, Bourne End-on-Thames; 5th—10s., H. H. Mann, Buckpool, Buckie; v.h.c., General Supply Stores, Woodbridge, Suffolk, J. Jones, Valley View, Marlow; P. Cruickshank, Station, Granton-on-Spey; P. G. Govett, Tideford, St. Germans; Cornwall; h.c., H. W. Seymour, F. C. Clark, Warnford, Bishop's Waltham; W. Challis, Boro' Green, Newmarket, J. Parkin, Appleby, Westmoreland.

Twelve 1-lb. Sections of Heather Honey (12 entries).—1st—£1 10s., J. M. Balmbra, East Parade, Alnwick; 2nd—£1, E. Middlemas, Stamford, Alnwick; 3rd, 15s., R. T. Tennant, Thirk; 4th, 10s., W. G. Walton, Central Bridge, Windermere; v.h.c., H. Waddington, Kirby Hall, Borobridge, Yorks; h.c., M. Dale, W. Hartlepool.

Three Shallow-Frames of Comb Honey for Extracting (11 entries).—1st—£1 10s., W. Loveday, Harlow, Essex; 2nd—£1, R. Gray, Bromborough, Birkenhead; 3rd—15s., E. Bontoft; 4th—10s., A. Bayley; h.c., Will Hampton, Manor-road, Richmond; F. W. Woodley; c., H. G. Little, Eastgate-row, Chester.

Twelve 1-lb. Jars Light-coloured Extracted Honey (68 entries).—1st—£2, with B.B.K.A. Certificate and Diploma—Rev. E. R. Iremonger, Clatford Vicarage; 2nd—£1 10s., F. W. Woodley; 3rd—£1, H. Hunkin, Green-street, Meath; 4th—15s., H. W. Seymour; 5th—10s., General Supply Stores; v.h.c., J. V. Gower, Hook, Winchfield; Lieut. H. C. Hawker, Longparish, Hants.; Mrs. M. Francis, Thruxton, Andover; C. D. Gardner, Fordham Abbey, Cambs.; h.c., H. M. Turner, North Leigh, Oxon; W. Thomas, Cardiff; J. Morgan, Upperboat, Pontypridd; A. G. Preen, Nesscliffe, Shrewsbury; E. Oakes, Broseley, Shropshire; F. C. Clark, Bishop's Waltham; P. W. Worsfold, Stonebridge, Guildford; A. Scarsbrook, Kirtlington, Oxon.

Twelve 1-lb. Jars Medium-coloured Extracted Honey (31 entries).—1st—£1 10s., Freeman & Son, Wendover, Bucks.; 2nd—£1, H. W. Seymour; 3rd—15s., J. Merrells, Thetford, Norfolk; 4th—10s., F. R. Court, Green-street, Sittingbourne; 5th—5s., H. Rowell, Winchfield, Hants.; h.c., F. Old, Piddington, Northants.; G. Walker, Wendover, Bucks.

Twelve 1-lb. Jars Dark-coloured Extracted Honey (12 entries).—1st—£1, Jno. Berry,

Llanrwst, N. Wa... ; 2nd—15s., H. W. Seymour ; 3rd—10s., H. M. Turner ; 4th—5s., J. Merrells, Thetford, Norfolk ; h.c., W. G. Walton, Windermere.

Twelve 1-lb. Jars Heather Honey (15 entries).—1st—£1 10s., J. Shaw, Sandsend, Whitby ; 2nd—£1, W. G. Walton ; 3rd—15s, T. Hood, Pickering, Yorks ; 4th—10s., G. H. Horn, Bedale, Yorks ; h.c., H. Waddington, and W. Sproston, Shugborough, Staffs.

Twelve 1-lb. Jars Granulated Honey (10 entries).—1st—£1 10s., W. Loveday ; 2nd—£1, F. W. Woodley ; 3rd—15s., Lieut. H. C. Hawker ; 4th — 10s., Rev. H. F. Goffe, Thoresway, Caistor ; h.c., H. W. Seymour.

Beeswax (not less than 3 lb.) put up in Cakes suitable for retail counter trade (13 entries).—1st—£1 5s., H. W. Seymour ; 2nd—£1, Hugh Berry, Llanrwst, N. Wales ; 3rd—15s., Hugh Berry ; 4th—10s., H. Attfield, Ascot, Berks.

Beeswax (not less than 3 lb.), judged for quality of wax only (23 entries).—1st—£1, R. Dutton, Terling, Witham, Essex ; 2nd—15s., Jno. Berry ; 3rd—10s., W. Loveday ; 4th—5s., F. W. Woodley ; v.h.c., H. W. Seymour ; h.c., J. Nichols, Thetford, Norfolk ; J. Stubbs, Rickerscote, near Stafford ; and J. Carver, Wellington, Salop.

We reserve till next week a few observations and comments we desire to make with regard to particular exhibits owing to our space being fully occupied in this issue.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

DISQUALIFIED EXHIBITS.

[4500.] It would further the interests and good-fellowship of British bee-keeping if Mr. A. Bayley, who writes in last issue of B.B.J. (4492, page 375), and any who, like him, have felt aggrieved at the disqualification of their section exhibits, were for a few moments to consider the matter from the point of view of the individual who has to act as judge. On being appointed he receives a schedule containing rules and regulations for his guidance. Should a rule be so ambiguously drawn up that doubt exists in his mind as to its meaning, he must conscientiously interpret it according to the best of his understanding. Where no doubt can exist, as in the case of the figures that determine the dimensions of the face of the comb, there is no choice before him. If he passes over the smallest appreciable departure from these dimensions he is acting unfairly, or, in other words, dishonestly ; and if, again, from lack of moral courage or other reason he strays from the straight path, it will only land him in greater difficulties. Those who have taken the trouble to conform with the rule will have a legitimate grievance, while if exhibitor A, with $\frac{1}{16}$ overlap, has been adjudged the prize, B, whose overlap amounted to $\frac{1}{8}$, and whose sections, in his own opinion, are not a whit inferior, was only $\frac{1}{16}$ worse offender than A, and so on, no one will be satisfied. It comes to this, then, that sections that fail to conform with the rule in the slightest detail *must* be disqualified, were they the best that bees have ever yet produced, and the exhibitor should take it smiling, like a good Briton, and be wiser next time.

Why any one should wish to steer so close to the margin limit is very difficult to understand. One quarter inch of lace will cover the wood and the rough edge of a well-filled section ; $\frac{1}{2}$ in. will not affect the decision of any competent judge. If the exhibitor who does his own lacing cannot trust his hand and eye to hit off an accurate $\frac{3}{4}$ in., let him aim at the $\frac{1}{4}$ in. As to the trade, few dealers, if any, now supply cases inaccurately laced ; if any dealer transgresses the remedy is obvious.—South Devon Enthusiast, *September* 21.

HONEY SHOWS AND RAIL CHARGES.

[4501.] *Sending Exhibits at Owner's Risk.*—I am glad that at least a warning note has been sounded in your journal respecting honey shows and rail charges. It would be well if bee-keepers in general knew a little more clearly how honey may be sent to shows in order to avoid falling into the snare of heavy charges. Mr. Wm. Woodley is not the only one who has suffered. The honey I sent to the Surrey B.K.A. show at the Crystal Palace cost me 2s. 8d. rail journey to the show, while the cost of return was 4s. 11d. ; my exhibits sent to the Confectioners' Exhibition at the Agricultural Hall 4s. 2d., return journey 9s. 3d. In the latter case you will notice that more than double was charged on the return journey. Was it the word "glass" printed on red label which caused this glaring difference of charges? I had some of these labels printed and placed on crates before sending them away. Our stationmaster here (who keeps a few bees) knows that I send at "sender's risk." And I have sent many one-dozen bottle-crates this year at sender's risk at the cheaper rate, though having the warning "hint" as to contents for the benefit of all concerned. And I am able to say I have had no damage done by rail either to sections or glass jars. I place a red label bearing the words "with care" on packages containing sections : and if such a

label were placed on bottle-crates—or packages containing honey in glass jars—would they then become not liable for heavier fee? I agree with the Rev. E. Charley that it would be advisable for exhibitors of honey to make it clear that they wished their exhibits to be returned at "owner's risk." Perhaps if this were done it would put an end to the matter, even though the warning label "glass" appeared on consignments.

Epilobium Angustifolium.—I have been interested with what has been said lately in the BEE JOURNAL respecting this plant. I believe that there is no plant which the bees are more ready to visit than this giant willow herb during the summer months. In my estimation, after the *Limnanthes Douglasii*—which is often so helpful to the bees in the spring—there is no plant so useful to cultivate in one's garden as this *Epilobium*, which continues flowering throughout the summer, and even during the heaviest honey-flow the bees will not forsake it. It likes a rather damp soil, but will grow almost anywhere, increasing by throwing out roots, so that it is well to give it room enough. I have had it growing from 4 ft. to 6 ft. high this year. Many have admired the white variety, which is rarer than the pink, waving as an army of banners, and lit up at eventide almost by its own pure whiteness; where the last of the bees would linger after 8 p.m. before returning to their well-earned rest. If any of your readers would like to test the good qualities of this plant, perhaps they will turn to your prepaid advertisement column.—(Rev.) MARCUS W. B. OSMASTON, *Goodnestone, Dover.*

THE GROCERS' EXHIBITION.

[4502.] In making some comments on the honey section of this show, and bearing in mind the editorial on page 371, I think our Editor will be pleased to find the exhibits all staged in one place, and that we had not to wait till next year for what all interested in the honey show wish, viz., the honey all staged together. At this exhibition the honey forms something more than a side show, and is quite worthy to be described as the "honey section" of the exhibition. I have no doubt that the Directors will appreciate the greater efforts made by bee-keepers on this second occasion to show that the efforts of the management to give prominence to honey, as an article of food that should be obtainable at every grocer's shop, are understood and highly approved by the craft. In my opinion, we have on view this week at the Agricultural Hall one of the best exhibitions of honey and beeswax in marketable form ever made in this country, and I hope a photo will be taken and reproduced in the pages of our journal, showing (as it would so well serve to do) a display of produce from the "Homes of the Honey Bee."

Personally, I share our Editor's regret that it should be necessary to "rope off" visitors to the show from getting quite near to the honey. But at the "Confectioners'" Exhibition even the "roping off" did not prevent thieving, one offender having to be dealt with at the police-court.

I regret that there should be the necessity for more careful wording of the rules at these exhibitions, but at present it seems possible to evade the requirements of both the spirit and the letter of the rule which says that one person cannot take prizes at both these trades' exhibitions. The means adopted to an end by several well-known bee-keepers much surprised me, and reminded me of the proceedings in bankruptcy courts, where the person under examination says, "This is my wife's," "These are my son's," and so on. Probably the directors of the exhibition would withhold prizes obtained by such means if the matter were brought to their notice; at any rate, these practices set what I will for the moment call the rank-and-file among bee-keepers a bad example.

The want of consideration for Mr. Herrod, who had sole charge of the unpacking and staging of the exhibits, shown by exhibitors was very noticeable, amounting in some cases to the infliction of needless labour and worry upon a very willing man. The rules required that all honey should be delivered at the Hall by noon on Friday, but the judging could not be commenced till after noon on Saturday—and still they came. I could not help thinking that these exhibitors must have heard Mr. Herrod say, "Let 'em all come," for the demands made by some exhibitors upon his time were astounding—"notes" enclosed with exhibits, such as "oblige by putting my numbers on the various parts of my exhibit," &c. In some cases much more was asked as a favour, and, oddly enough, these requests come chiefly from persons who, i they have not the time themselves, are in a position to pay some one else to properly prepare exhibits, yet all this work is expected to be done gratuitously.

Exhibitors should know that the simplest form of packing is both the least troublesome and the most efficient. A plain wood box with 2 in. or 3 in. of hay in the bottom, then place the honey on a board on the hay and pack round, is a simple and safe package. But each glass jar of honey should be slipped into a roll of corrugated paper, or better still are the cardboard boxes now on sale for single jars. The lid of a box may be lined with corrugated paper, and if the lid is hinged on one side and fastens on the other with a couple of screws, it is both efficient and simple for the unpacker to deal with. If those who send honey packed in wadding and similar materials would only think of the great trouble they are giving, if the exhibit is to look at all well, they would at once cease to use them. Some exhibits were sent to the present exhibition with pillows above them, and one or two I saw with bed quilts

folded and placed under them, not, presumably, in either case to keep the extremities warm, but to soften any blows to which the box might be subjected.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

VISITS OF BIRDS TO FLOWERS.

[4503.] E. Werth, in "S. B. Ges.-Naturf. Freunde, Berlin, 1900," pages 73-77, discusses the question whether the *Nectariniew* (honey birds) of tropical Africa visit flowers for the sake of honey or of the insects which feed on honey, and concludes, from the structure both of the birds and of the flowers, that the former is generally the case, although the capture of insects may also sometimes be the object; but the sucking organ is not so much the long tongue, as has been stated, but the beak.

Professor F. Dahe has investigated the same problem in the Bismarck Archipelago. He finds there three species of *Papageiew*, two of *Meliphagidew*, and two of *Nectariniew* which visit flowers. From an examination of the contents of the stomach he determined conclusively that the *Papageiew* (species of *Charmosyna*) are pollen eaters, while the *Meliphagidew* and *Nectariniew* are entomophagous.

No evidence was found that the entomophagous birds feed also on honey, and the flowers which they were observed to visit had no nectaries.

Werth, in reply, while admitting that an examination of the contents of the stomach must be conclusive as to the nature of the food, still maintains that the *Nectariniew* feed on honey as well as insects, otherwise it would be impossible to account for their sucking apparatus.

The above has been gleaned from the *Journal* of the Royal Microscopical Society of London, and may prove of interest to some of the readers of your paper.—R. Hamlyn-Harris, F.R.M.S., F.E.S., &c., *Dalry, Galloway, N.B., September* 16.

SUBURBAN BEE-KEEPING.

BEES NEAR LONDON.

[4504.] My first commencement in bee-keeping (in July, 1900) was due to purchasing a copy of Mr. Cowan's "Guide Book," and knowing that bees could gather enough honey in the neighbourhood for their own support by the fact of a stock living in a hollow tree close by here for the past seven years. In this way, then, and armed with my newly acquired knowledge, I made a determined attempt to get the bees out of the tree into an empty skep placed over their entrance. With the aid of a good smoker I gave them a good supply of smoke under their nest through holes bored in the trunk. You may guess the result: a severe stinging of my hands through two pairs of woollen gloves I wore at the time. I afterwards made a second attempt with the same result, and then gave up the task as a hopeless one, seeing that I could not obtain permission to cut the tree down. Having, however, made up my mind to possess a stock of bees, I purchased one in a thirteen frame hive; all the frames of which they quite filled with brood and honey, but did not get any surplus last year. This spring I found the bees were in a very forward condition, and, wishing to increase my stock, I made an artificial swarm (as directed in the "Guide Book"), having previously made a "W.B.C." hive ready for their reception. I am pleased to say my first attempt in this direction was a great success, for after making the swarm on May 12, on August 8 I took off a rack of twenty-one beautiful well-filled sections, for each of which I obtained 1s., and could have sold many more had I been able to supply them.

The bees in the parent hive filled their thirteen frames with stores, but yielded no surplus.

When the present honey season had ended, I removed three frames from the old hive and closed up with dummy board, and I then placed the removed frames in another "W.B.C." hive of my own make, and next purchased a driven lot of bees, hiving them in the same, having previously taken a frame of brood from another stock to make sure the driven bees would not take unkindly to their new home and make off. I also put an empty frame of comb in middle of nest, and fed the bees rapidly till the six combs were almost full of food. I then packed the new stock up for winter; also doing the same for my other two colonies, and making all as comfortable as I could. I am looking forward to another summer in 1902 as good as this for bees, and wish success to the B.B.J., of which I have been a reader for the past two years. I trust this little account of my doings may be of interest to suburban readers, and with best wishes to all readers.—G. H. J. Macdonald, *Warwick Gardens, Harringay, September* 20.

(*Correspondence continued on page* 386.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

We again have the pleasure of illustrating on opposite page the apiary of a reader who is a stationmaster, and it affords an opportunity for drawing attention to the chance afforded to all railway men similarly situated of taking up a home-hobby that will afford them pleasure as well as profit. Messrs. Rymer, Appleyard, and Wright make up a trio of bee-men of whom we may all be proud as showing what can be done with "the bees," and we shall welcome among readers as many of their comrades as decide to follow their example.

Of himself Mr. Wright says:—

"In giving a brief account of myself and my bee doings, in answer to the request of the Editor of our valuable little journal, I am unlike a good many who have already appeared

in print, my experiences only reaching over a period of three years. Well do I remember my start. I happened to see a man with a veil on, and, like all folks who are ignorant of bees, I had to ask 'why he wore it' and other elementary questions. This seemed to give me a desire to keep bees, and when opportunity offered I invested in a stock in a 'Sandringham' hive. Knowing nothing about them, and wishing to do so, I bought the "Bee-keepers' Guide Book," and also the BEE JOURNAL and the *B.K. Record*, and have continued to do so ever since; but to me at that time it was like a foreign language; so in desperation I wrote to the Association asking for assistance. This was soon forthcoming in our Essex B.K.A. expert, who showed me the inside of a hive, and explained what the combs were for, and other (to me then very valuable bits of information. From that time I fairly caught the complaint we call 'bee-fever,' and continue to be in the same state up to to-day. In fact, nothing gives me more delight than spending half an hour with my bees, watching them take the pollen in, or perhaps water or honey, all according to the season and the necessaries required by the little inmates. I have pleasure in saying that I have saved many a stock from the 'sulphur-pit.' The cruel plan of sulphuring once explained to the skeppist, they readily allow the bees to be 'driven;' at least, it has been my experience to come across very few who have demurred, their greatest trouble being they are afraid the poor things will starve, and they would know their end if the bees were burnt. A little persuasion and a small silver coin, however, soon does away with these misgivings, and once more I triumphantly 'bike' home with my driven lots of bees. I have to thank the JOURNAL for disposing of the majority of these stocks for me, and trust I may be able to call upon it to come to my rescue till the people are educated to the folly of keeping their bees in skeps and to the utility of the frame-hive from both a commercial and pleasurable view. I am the local adviser for our district here and also hold an agency for a prominent bee-appliance firm, so find myself very much taken up with the bees in all ways. I should like to do more, but my profession as stationmaster will not allow me to wander away much. I may add that I took seven first prizes last year for run and section honey, two being against all comers in eighteen parishes. This, of course, I was greatly pleased at. Our district here, I am sorry to say, is not of the best, nothing coming in till the clover and sainfoin, after which it is best to close, and let the bees gather from what they can find and put it to their own uses. I have found, and decidedly agree, that bees allowed to keep their own stores are much more favourable from every point of view, it

MR. C. MORRIS'S APIARY, STANFORD-LE-HOPE STATION, ESSEX.

being my opinion they come out stronger in the spring, and are more ready to form themselves into a strong colony than those artificially fed, although no doubt this latter query is greatly governed by the age and vitality of the queen. At present I have only tried the English black bee, but on the recommendation of our esteemed and hard-working expert, Mr. Withycombe, I intend to try a Carniolan and to re-queen all my stocks from her progeny. I may say that I cannot give any record take, my biggest last year being 40 lb. and this year 56 lb., the ordinary takes being much lower. This was not at all to my liking, but when going through the district I found some bee-keepers with none, and even some stocks on starvation rations, I was obliged to agree we had had another bad year in this district. The prices of honey here are very good, sections fetching 1s. each, and run between that figure and 10d. This, I think, is very satisfactory, and I am pleased to say I find every one determined to keep the figure up.

"In conclusion, I must join the majority of successful bee-keepers in acknowledging that without the aid of our valuable little JOURNAL my success would undoubtedly have been a failure, and must record my sincere thanks to our esteemed and courteous Editor for being in a position to say that bees properly managed do pay, and pay well."

CORRESPONDENCE.

(*Continued from page* 384.)

COMMENTS ON CURRENT TOPICS.

[4505.] *Summing up Results.*—I think no one will dispute the assertion that for clover honey this has been the best season since Jubilee year. The year 1893 comes next to it, perhaps, but it was partly marred by a mixture of honey-dew, while this year this *bête noir* has been conspicuous by its absence. Pure clover-honey is the finest sample I have ever seen, and the finish of the sections (even though they are 4¼ in. by 2 in.) is simply perfect. That is high praise, but I use the words advisedly. The heather-honey harvest, though good as a whole, did not fully realise expectations owing to several causes, the chief being the weather. On August 10 we had a very general thunderstorm, accompanied by heavy rain, which, though it did not destroy the flower, prevented the anticipated rich bloom being fully developed, while it, at least, tarnished the earlier blossom on which the bees were doing glorious work. Then, on the 26th, floods came and prematurely washed out all the bloom left. That date, locally, at least, was the end of the heather harvest. Another cause why less pure heather-honey was obtained than we expected was the early date at which it began to bloom. This was about the middle of July, when clover covered our fields with a rich and abundant mantle of white, and the bees for a considerable time wrought on both clover and heather. Though the product is not pure heather, it has given us a delicious blend of both products, which I consider one of the finest I have ever tasted. I expect a ready sale for it when its excellence becomes recognised.

Prices Current.—I deal separately with selling honey, and here confine myself to one point which is of primary importance to a very large number of bee-keepers in Scotland, Wales, and the North of England—viz., the comparative merits of heather and clover honey—judging merit by its price in the market. The price of clover has all along ruled low, and it seems now to be a drug in the market. Heather has sold well and at a good price. I could have sold all my heather produce in one lot at 1s. per section to more than one firm in both Edinburgh and Glasgow, but mostly failed to get an offer for clover, as they were heavily overstocked, and declined to purchase at any price. The best offer for very fine clover sections was 6d. Now I would again urge on heather men to work for the crop which pays; and, as the "slack" season has set in, the time seems opportune for initiating a discussion in the JOURNAL on how we can best attain the desired end. Personally, a limited trial of the Rymer method did not prove a great success in my hands, and bees this year rather ran ahead of me in striving to work out my own plan, thus giving me more clover and fewer heather sections than I desired.

Swarms Losing Weight in Transit.—This subject demands some "reading up." The consigner folds his hands in quiet content when he has assured the consignee that the swarm weighed, say, 5 lb. when despatched, though on arrival they turn the scale at little, if any, over 4 lb. Right here a little difficulty obtrudes itself, and my mind is far from clear as to either the force or justice of the producer's contention. I grant that loss of weight is inevitable, but why should the seller gain all the profit and share in none of the loss? When the subject is examined deeper, the unfairness becomes even greater and more marked. The buyer pays for 5 lb. of bees at 3s. 6d. per lb.; value when dispatched, 17s. 6d. The purchaser receives 4 lb. bees, value 14s. Now to the sender the loss would be only the value of a pound of honey, or about 6d. If this is so, should not disposers of swarms give just a little more than 5 lb., seeing it would only mean to them the loss of a little cheap honey, and so enable us to obtain nearly the weight of bees paid for? This is not a personal matter with me, as I have never had other than fair treatment, but I know there is a lot of grumbling over the matter, and often with just cause. The loss of a swarm in transit, from whatever cause, should be borne by the consigner. It is rather hard lines undoubtedly when it may arise

from no fault of his, but undoubtedly the point should never be questioned.

Do Bees Pay?—My twelve supered stocks gave me an average of all but 100 sections, yielding 186, 141, 132, 115, 107, 101, 78, 66, 64, 59, 51, 45, or just over half a ton of honey. I began the season with fourteen, but the others were not wrought for sections. I now enter into winter quarters with twenty stocks. In addition to these I visited some fifty colonies during the season, several of which gave a surplus of over 100 lb., but in most of these severe swarming hindered a heavy yield.

My English Swarm.—As the 115 sections recorded above are its surplus, it will be seen that it has again come well to the front. It was got on June 7, and hived on six frames. At the time the weather was wintry for a week, so it got 9 lb. of sugar, receiving 1 lb. a day till the 15th. On the 22nd a seventh frame was added, on the 27th another, and on July 1 the ninth. This formed the brood body. As it was excessively hot, some bees were observed outside dummy on July 2, so a rack of twenty-one sections was given; another was added as a cooler on the 5th, and yet another on the 10th. On the 12th, bees occupied all three. A fourth rack was given on 18th. Two were taken off on 23rd, and another (the fifth) put on; while the sixth and last was added on 27th. August 1 saw the third off, the other three remaining until 24th, when they were taken off, yielding 21, 21, and 10 sections.

Perhaps the following table will make matters clearer:—

Rack, 21 Sections, on		Date taken off.		No. of Sections.
1	July 2	1	July 23	21
2	„ 5	2	„ 23	21
3	„ 10	3	Aug. 1	21
4	„ 18	4	„ 24	21
5	„ 23	5	„ 24	21
6	„ 27	6	„ 24	10

Total sections on, 126. Total completed ... 115

A Bee Puzzle?—Why does a bee continue for hours until quite exhausted beating its head against a pane of glass when, after the first few knocks, it should discover that there is no thoroughfare? The point is accentuated by the fact that both to left and right means of exit are available. Our sexton, at certain seasons of the year, collects several hundreds of our church bees near a certain window of the sacred edifice, which have thus done themselves to death in attempting the impossible. In some experiments I have lately been making the bees again and again died of sheer exhaustion from the insensate efforts made, when they could have obtained egress freely by moving to either side. A very small hole at the top of the window was, however, discovered by a considerable percentage of the bees. As will be seen by the following, the subject has engrossed the attention of a poet (?):—

> The bee, who's supposed to be busy,
> Has bumped his poor head till he's dizzy,
> Just trying to pass
> Through a clear pane of glass.
> He may be a model of virtue (alas!),
> But he's not very clever, now, is he?

Sir John Lubbock would say: "No; an ant, or even a fly, would show greater wisdom by making, not for the *light*, but for the *exit*." Another savant will help me to a reply: "Good fortune often waits on the simple, who find salvation where the wiser will perish."—D. M. M., *Banff*.

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S, ETC.

Practischer Wegweiser fur Bienenzucht (Germany).—A few weeks ago a bee-keeper and honey dealer was summoned to appear at Vienna on the charge of selling adulterated honey to which 40 per cent. of syrup had been added. He was sentenced to a £10 fine.

From the same paper we learn that a charge of bee-stealing came before the court at New Ruppin in February last. The accused was a workman, who had stolen a hive of bees from his employer and destroyed another hive. As he could not succeed in sulphuring the bees he threw the hive into some water; the bees were killed and the honey lost. The loss was estimated at 50 marks (£2 10s.). Although the thief pleaded not guilty, the Court sentenced him to eighteen months' imprisonment.

Bees in a Statue.—In Newbitschein, in Westphalia, on the top of a tall building, is a statue (over life size) of stone. The "saint" had an imperceptible hole in the arm-pit through which, four years ago, a swarm of bees passed and took up their abode in the statue. Every effort has been made to dislodge the bees, which must have an extraordinary quantity of honey, but without success. To gain possession of the swarm it would be necessary to break up the statue.

B. Centralblatt (Germany). *The Bee's Tongue.*—There seems that little confidence can be placed in the information as to the increasing length of tongue in bees of any kind. Their conformation is invariable, beyond that of any other insect. In no other class do the fossil insects bear such close resemblance to those now existing; and not only in form but in habits and ways of life, their doings, customs, and working powers no difference can be observed. All efforts to raise a larger race of bees have failed. Therefore, all attempts to produce a larger, longer tongued, or stingless race of bees must be put away into the land of dreams. Still a careful choice within given bounds is greatly to be advised.

Remedy for Bee-Stings.—Arnica tincture is an excellent remedy against the poison of bee-stings. If applied at the moment it soothes the smarting pain and prevents any swelling of the parts. No other remedy can compare with this. Try it, and you will be convinced.

Leipziger Bienenzeitung (Germany).—A proposition has been made to use honey instead of sugar in the manufacture of preserves and confectionery. During great heat honey-water stills the thirst. Soda water with honey forms a very refreshing lemonade. Half Bordeaux or Rhenish wine and half water, with an addition of honey to taste, is a draught not to be despised.

Die Deutsche Bienenzucht (*Bulletin Mensuel*). *Falling-off of Bee-keeping in France.*—According to a bulletin of the Minister for Agriculture, there were in France in the year 1862 24,265,578 hives, of the value of 24,203,014 francs yearly. There has been a decrease of 839,863 hives, and a yearly loss of 8,958,194 francs, in honey and wax. The chief reason of this is said to be the want of properly organised apicultural teaching, lectures, and travelling experts.

L'Apiculteur (France).—As to the proportion of honey consumed to the wax produced, Sylviac gives as his opinion that it varies from one to twenty or thirty. The depositions of wax depends on three principal causes, warmth, nourishment and activity. When these factors are all favourable—which is an unusually fortunate condition, only about one gramme of honey is necessary for a gramme of wax. If the conditions are somewhat less desirable, then two or three grammes of honey are needful. The more unfavourable these factors, the more honey is required in proportion to the wax up to thirty grammes to one of wax. After this no deposition of wax appears to take place.

Queries and Replies.

[2723.] *A Bundle of Queries.*—In thanking you for replies to my queries last week (2719, page 368), let me say I was certainly not aware the comb sent you was affected with foul brood. The bees of the hive from which it was taken died out of it last winter. I burned the hive and frames when I received your reply. I now enclose you a bit of comb from a hive that this season gave me between eighty and ninety sections of saleable honey. 1. Will you please tell me if this is affected with foul brood? 2. *Spacing Frames in Winter.*—What is the object of spacing the frames in hives 1¾ in. apart during the winter months? 3. *Using "ekes" in Winter.*—What advantage is gained by using the 3-inch "eke" sent out with the "W.B.C." hive during winter? and is it only intended to be used then? 4. *Contracting Hives in Winter.*—My hives are all "W.B.C.," with one exception, and I find they only hold ten frames without division-boards. Is this correct? I presume you intend those to winter on about eight frames and division-boards, and in the summer work ten frames without division-boards? 5. About how often should the naphthaline balls be renewed in the hives, as, of course, it would be unwise to disturb the bees by taking out or moving frames to see if the balls have evaporated? I have just given all hives two balls split in halves each as directed. Is this right? 6. *Syrup Making.*—I made some syrup according to directions in "Guide Book," and as the bees do not seem inclined to take it, I send you a small sample of it, and would feel greatly obliged if you would say if there is anything wrong with it. I have just overhauled the hives, and some of them require food to have enough stored for winter. Perhaps you would tell me how to make it palatable, as it is a 10-lb. lot made from loaf sugar. Hope I am not too troublesome, but I cannot get on without your advice.—*F. J., Mountmellick, Ireland, September* 17.

REPLY.—1. No trace of brood in comb, foul or otherwise; only fresh-gathered pollen. Surely you should know this from "Guide Book?" 2. To allow of more bees in each seam and so add to the warmth. 3. Space below frames in winter is advantageous in many ways, but mainly because of allowing plenty of air and allowing room for dead bees without blocking entrance. 4. The "W.B.C." hive should have room for eleven frames, or ten and a dummy. Contracting in winter is a moot point among bee-keepers. 5. Renew only when required. 6. Syrup will be all right if boiled for two or three minutes to thicken it.

[2724.] *Making the "W. B. C." Hive.*—I hope during the coming winter months to make a few "W. B. C." hives, and I am anxious to have them "up to date," so I therefore ask:—1. Do you prefer the plain "W. B. C." hives, or would you use a non-swarming chamber? 2. If the latter, would you use the entrance at the bottom of same, or between non-swarming chamber and brood-box? Or, 3. Would you prefer to work the hives on Mr. Rymer's plan, allowing a shallow-box for brood and the ordinary ten standard frame box? My bees are mostly Carniolan hybrids, and I wish to prevent swarming in the future. Your reply will be esteemed.

The season has been a very good one here, the honey being finer in quality than any I have ever had. Strong stocks have yielded from 70 to 80 lb. of surplus each, and swarms were general during June and July. I returned most of the swarms, having made two nuclei from brood-nest. Some of these will be strong enough to stand the winter, having now been put into Wells' hives. I find the Carniolans and hybrids much quieter to handle in the autumn than natives. I hope to winter

forty stocks.—H. SWIFT, *Cheltenham, September* 21.

REPLY.—1. This is wholly a question for the user. Personally we can prevent swarming without any non-swarming appliance. 2 We should have the entrance at bottom, so as to accustom the bees to the lower box. 3. Mr. Rymer's plan is devised to meet his own special needs, and should be considered as such; it is not suitable to ordinary localities. Carniolans are inveterate swarmers, and so we think the non-swarming chamber is specially adapted for them.

[2725.] *Transferring Bees from Skeps to Frame-Hives.*—Seeing that you give all kinds of advice and hints to bee-keepers, I beg to be allowed to trespass upon your good will with the following questions:—1. What is the best method of doing away with straw skeps? 2. Can they be got into a frame-hive by having a queen-excluder placed over the brood-box, and then placing the skep over that? or (3) place the skeps into the outer box of a frame-hive during the winter, and when they have been confined to the skep for some time, then proceed as in query 2? 4. Could you give dimensions for a good bee-house to take, say, from sixteen to twenty swarms, or would you advise smaller ones?—OTTMAN PFLEIDERER, *Wellington, Salop, September* 8.

REPLY.—1. Allowing the bees to transfer themselves from skeps to frame-hives is by far the best method we know of. 2 and 3. Follow directions given in "Guide Book," and you will not go wrong. Do nottry any "improved" plans of your own. 4. For 1½d. in stamps to this office we will forward a copy of B.B.J. containing a description of a bee-house. We have not room in this column to give such lengthy particulars as you require. As to size of house, it all depends on the bee-keeper's needs.

[2726.] *Queens Ceasing to Lay in Autumn.*—I am quite an amateur in bee-keeping, and in examining the frames in brood-chamber I find there are eleven frames well covered with bees and plenty of honey and pollen, but not a sign of either brood or queen. The bees were a swarm I caught last year. I then made hive according to instructions in "Guide Book" and drove bees into it. At commencement of spring, 1901, there were only bees on five frames, but they soon filled six more, and then I put on super of eleven shallow frames, from which we extracted 33 lbs. of honey. I was satisfied with this as I had so few bees to begin with. I should like to ask you if it is natural when bees are so crowded and have not swarmed for queen to cease laying until spring comes again. I may have overlooked queen at my last examination, but have seen her before when overhauling combs. If she is now dead or in some way lost, what should you advise me to do? I have taken the BEE JOURNAL in now for twelve months, and have to thank that useful little paper for what I know about bees.—C. BARRETT, *Selly Oak, Birmingham, September* 22.

REPLY.—There is nothing very unusual in queens ceasing to lay when the honey season is over, especially if they have produced a large population of bees in the current year. But make certain the queen is there before packing down for winter. If the stock is queenless, re-queen without delay.

[2727.] *Wintering Bees in Observatory Hives.*—Many thanks for your answers to my last questions. I would be much obliged if you would let me know how many frames (of bees, &c.) are usually considered necessary for the successful keeping of an observatory hive indoors through all seasons, so that it could also be used for supplying queens now and then. I suppose a one-frame hive would be too small, although it could be studied best of all. I could, of course, give syrup when required.—A. ROBERTSON, *Benview, Dumbarton, September* 19.

REPLY.—It is next to impossible to winter bees in observatory hives of the ordinary type—*i.e.*, those in which the combs are visible on both sides at all times. They can only be wintered in hives having glass sides, with the frames hanging as in an ordinary brood-chamber.

[2728.] *Starting Bee-keeping.*—This is my first season as a bee-keeper. I can only say that it is not only a profitable occupation—my returns being quite equal to the original outlay—but a useful recreation and a fascinating study into the bargain. If "to labour is to pray" be true—few will doubt it—how ennobling is the example set before us so persistently by the bees. The "Guide Book" is, of course, my constant study, but there are a few questions I should be most thankful to have answered in the B.J., for on these points the "Guide Book" is, I believe, silent:—1. Will you please differentiate between sealed pollen and sealed brood? 2. It is advised to allow the bees 2 superficial feet of honey for wintering. Am I correct in thinking that each side of a frame having sealed honey counts? 3. If more than sufficient honey be present, what should be done with it—extracted or left for stimulating in the spring? 4. As, unfortunately, my hive has the frames running parallel to the entrance, should I crowd the bees together for the winter by using a dummy, and thus place them nearer to the entrance of the hive? 5. How wide should entrances be left during the winter? I trust I am not trespassing too much on the space in your useful journal.—BETA, *Cardiff, September* 22.

REPLY.—1. Pollen is never "sealed" by bees only when the cell is filled up with honey placed there by the bees to keep it soft and fit for use. For the rest, examine for yourself, and once seen it will be always easy to tell sealed honey from sealed brood at sight, but not easy to describe it in words. 2. Yes

3. Leave *too much* rather than too little. That is the safest guide; and many of our best bee-men rarely take honey from brood-chambers. 4. Yes. 5. See "Guide Book."

[.] *Making Syrup for Bee Food.*—May I trouble you for opinion by post of enclosed syrup? I have made it exactly as advised in "Guide Book" (excepting salt) for autumn feeding, but it seems to me so very watery, that I fear my grocer has not supplied me with cane sugar, and therefore hesitate to feed the bees with it.—F. H. B., *Stechford, September* 21.

REPLY.—The sugar-syrup sent is too thin and watery for good winter bee-food; but it only needs boiling a couple of minutes to make it all right. Why did you omit the salt as advised in "Guide Book"? Our correspondent may rest assured that Mr. Cowan does not advise the use of salt in bee syrup without some good reason.

Bee Shows to Come.

September 21 to 28, at the Agricultural Hall, London.—Honey Show in connection with the fifth Annual Exhibition of the Grocery and Kindred Trades.

September 28, at Jedburgh.—Roxburghshire B.K.A. Annual Autumn Show of Bees, Hives, Honey, &c. Twenty-three classes (including eight open classes) for Bees and Bee Produce. Schedules from Thos. Clark, Pleasants, Jedburgh, N.B. **Entries closed.**

October 5 at the Y.M.C.A. Hall, Newcastle-on-Tyne.—Northumberland and Durham B.K.A. Third annual show of Bees, Honey, and Bee-produce. Twelve classes. Entry fee, 1s. Schedules from Jas. Waddell, Wooler, Northumberland. **Entries close October 5.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries close September 30.**

October 24 and 25, at Kilmarnock.—Honey Show in connection with the Ayrshire Agricultural Association. Eleven classes for honey, with liberal money prizes. Schedules from John Howie, Secretary, 58, Alloway-street, Ayr. **Entries close October 11.**

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for hives. Schedules from J. Palmer, Hon. Secretary, 17, Brand-lane, Ludlow. **Entries close November 5.**

PRESS CUTTINGS.

WASP HUNTING.

I think "the wasp hunting extraordinary" you mention in Essex is far from being a record, as on three nights two of us destroyed and dug out no less than twenty-eight nests, making, with four destroyed on other nights, a total of thirty-two nests.

These were all within a radius of five minutes' walk of the gardens. They have been quite a pest, and have done a lot of injury to the fruit. W. MABBOTT.

The Gardens, Doddington Hall, Lincoln. —*Daily Mail.*

Notices to Correspondents & Inquirers

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

AN EXHIBITOR (Durham). — *Misdoings at Shows.*—We have had several communications similar in import to your own, but it is quite useless to attach any value whatever to the "talk" that goes on among exhibitors after the judging is over. The unfortudate thing (for the judges) is that nearly every exhibitor thinks he should have had a prize, and as this cannot be, it should be admitted that judges fulfil their—none too pleasant—duty by endeavouring to do justice to all without fear or favour. As for favouring "old hands" to the disadvantage of "beginners," it is a groundless slander to suggest anything of the kind, by whoever made.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," "not Manager."

J. C. W. (Windermere).—There is nothing worse in comb sent than pollen and honey—or syrup—not a trace of brood, foul or otherwise.

W. B. (Lancaster).—1. Comb sent is affected with foul brood. It is truly disheartening for a beginner to be thus troubled at the outset by purchasing a diseased stock, but there is no help for it but having a guarantee from sellers. 2. Drone-brood is about useless in diagnosing a case of foul brood. Worker-brood only should be sent.

J. HALL (Aberdeen) and CONSTANT READER (Burry Port).—Comb sent is affected with foul brood. In last-named case the disease is only in the incipient stage—*i.e.*, only just breaking out—and may be stopped by the use of preventives.

*** Some queries—accompanied by stamped envelopes—still unreplied to will, where possible, be answered by post; but we have been much pressed of late with overwork connected with the bee-industry outside editorial duties, and hope to have some indulgence from readers in consequence.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held at 105, Jermyn-street, on Thursday, September 19, Mr. F. B. White occupying the chair. There were also present Major Fair, Messrs. W. Broughton Carr, W. H. Harris, J. M. Hooker, J. H. New, W. F. Reid, E. D. Till, and the secretary. Apologies for inability to attend were received from Miss Gayton, the Hon. and Rev. Henry Bligh, Messrs. H. Jonas, E. Walker, and T. I. Weston.

The minutes of the previous meeting were read and confirmed.

Mrs. Mary Bell, Netherhall, Foots Cray, Kent, was formally elected to membership.

Mr. J. H. New presented the report of the Finance Committee, together with a number of accounts recommended for payment. The report was approved.

The monthly statement of work by the Society's Expert was laid before the Council.

A proposal by Mr. W. H. Harris to place the three grades of experts on different footings and with greater distinctions than those now in force, was, after discussion, adjourned for further consideration at a future meeting.

It being understood that Mr. J. M. Hooker, one of the oldest members of the Council, is soon to take up permanent residence in America, on the motion of Mr. W. H. Harris, seconded by Mr. W. Broughton Carr, a vote was unanimously passed recording the esteem in which Mr. Hooker has been held by his colleagues, and expressing the thanks of the members for his past good work on behalf of the Association, and best wishes for his future health and happiness.

The Secretary placed before the Council a statement in regard to the result of the appeal for names and addresses of bee-keepers residing in districts where there are at present no organisations in affiliation with the parent Association.

Acting on the advice of Examiners of Candidates for 3rd Class Expert Certificates it was resolved to grant "passes" to the following, viz.:—Misses Aukland, S. L. Bond, M. E. Bott, C. M. Carlyon, M. Clough, H. Draper, Y. Forster, M. Macara, M. Mackay, K. Morrell, E. F. Noel, F. W. Peache, Ella Read, K. B. Schattner, Dorothy Shove, M. M. Smith, E. F. Squier, B. D. Thomson, Elsie Varley, and C. M. Walle e; Messrs. J. Bollington, C. H. Buck, W. P. Cadness, F. E. Cory, E. J. Dunn, S. Durose, J. Gibson, W. H. Higley, W. J. Houlden, W. J. Ireland, L. L. Jacobs, R. G. King, W. J. Lawrance, T. Ormesher, J. Pearman, A. H. Prichard, A. W. Salmon, W. O. Scoggins, W. E. Smith, W. Snowden and J. Woodward.

The next meeting of the Council was fixed for Thursday, October 10, to be followed by a conversazione of members.

THE GROCERS' EXHIBITION.

(*Report concluded from page* 382.)

In concluding our report on the above very satisfactory show, we may again say how marked was the improvement made in the honey section compared with the display at the Confectioners' Exhibition a week earlier. Not only was the honey all in one place, but cards denoting ownership of all exhibits noticed by the judges were placed in front of each, while coloured cards denoted the prize lots, as is done at the "Royal" and other important shows.

If exhibitors themselves will only show the same anxiety with regard to "staging" according to the schedule as do the directors of these shows, there will be no friction between any of the parties actively concerned in carrying out the work, and all-round good will follow. Why should there be any overlacing of sections or such other infringements of the schedule as cause disqualification? Speaking personally—and as one of the "hardest worked" judges of the day—disqualifying is a hateful task whenever it has to be done, but when all must admit that the exhibitor alone is to blame it becomes doubly annoying. Nor is this bad or careless habit confined to overlacing sections and exceeding measurements of trophy space; it extends to grading extracted honey in the different classes for "light," "medium," and "dark" coloured honeys. Some almost farcical "misses" were made here at the Grocers' Show. Again, the weight in class for beeswax, not less than 3 lb. was to be staged, yet the best sample lot only weighed about 2½ lb., and consequently missed the 1st prize. Again, with "wax in cakes for retail trade," some 1-oz. cakes were half as heavy again as others. What folly it is to overlook common business tact, and how unlikely to be a winner if judges do their duty!

Luckily for all, the directors of these exhibitions have a clause in their "rules" which enables them to allow judges some discretion in these matters, so that where "equity" demands some allowance for a non-intentional infringement unjustified "grumbling" is minimised as much as possible.

HONEY SHOW AT ALTRINCHAM.

There was a splendid show of honey at the always popular annual show of the Altrincham Agricultural Society on Thursday, September 26. A glorious September day brought a great gathering of people, who had an opportunity of seeing what fine honey the county of Cheshire can produce in a good season. Good as it was, however, the display would have been much more attractive had the honey been arranged on proper staging, instead of on flat tables, and it is to be hoped the society will see their way another year to provide for this. Comb honey, always a weak class in Cheshire, provided eleven entries in the open class,

and five in that confined to cottagers. In both classes, *i.e.*, sections and jars, some sainfoin honey was staged, and as these were confined to Cheshire, this was much remarked on, as sainfoin honey is not at all common in Cheshire.

The open class for extracted honey was very strong, and out of the twenty-seven lots staged there was not a single bad sample, a splendid example of clover honey of great density and fine flavour taking first prize. The trophy and hive classes were both poor, and is to be hoped this will be improved on another year.

The wax was particularly good, and the first prize went to a beautiful specimen of wax carefully prepared.

The Cheshire B.K.A. gave two silver and two bronze medals for the two best exhibits in the open classes for comb and extracted honey.

Mr. Thomas D. Schofield, Alderley Edge, acted as judge, and made the following awards :—

Complete Frame-Hive.—1st, W. Cartwright, Moors; 2nd and 3rd, W. Garner & Son, Altrincham.

Twelve 1-lb. Sections.—1st, W. Ratcliffe, Barthomley, Crewe; 2nd, A. Houlden, Knutsford; 3rd, Rev. T. J. Evans, Chester.

Twelve 1-lb. Jars Extracted Honey.—1st, A. Limestead, Ince; 2nd, Stephen Eaton, Audlem; 3rd, F. Hewitt, Tarporley.

Beeswax (not less than 1 lb.).—1st, W. Ratcliffe; 2nd, Rev. E. Charley, Chester; 3rd, Wm. Cartwright.

Six 1-lb. Sections (cottagers only).—1st, R. Dodd, Tarporley; 2nd, W. Ratcliffe, Barthomley, Crewe; 3rd, Jno. Houlden, Tabley.

Six 1-lb. Jars Extracted Honey (cottagers only).—1st, A. Limestead, Ince; 2nd, S. Eaton, Audlem; 3rd, Wm. Astbury, Kelsall.

Display of Honey in any form.—1st, Wm. Garner & Son.—(*Communicated.*)

HEREFORDSHIRE B.K.A.

ANNUAL HONEY FAIR.

Under the auspices of the Herefordshire Bee-keepers' Association, which claims Sir James Rankin, Bart., M.P., as its president, the seventeenth annual honey fair was held in the Butter Market, Hereford, on Wednesday, and attracted a good deal of attention. The show was regarded as the best held for some years past, the entries being very numerous, and the quality of the honey excellent. Mr. James G. Godwin, of Mayfields, Withington, acted as hon. secretary. Trade was fairly good, run honey realising from 8d. to 10d. per lb., and honey in sections 8d. per lb.

Mr. J. Palmer, Ludlow, officiated as judge, and made the following awards :—

OPEN ONLY TO MEMBERS OF THE H.B.K.A.

Exhibit of Comb and Extracted Honey, not exceeding 100 lb.—1st, M. Meadham, Huntington (disqualified, exhibitor being paid expert to the Association); 2nd, Thomas Meadham; 3rd, J. H. Wootton, Byford; h.c, C. Edwards, Kingston, and R. Pearce, Stoke Prior.

Exhibit of Comb and Extracted Honey, not exceeding 50 lb. (novices).—1st, J. Helm, Norton Canon; 2nd, A. W. Burgoyne, Lyonshall; 3rd, J. E. Williams, Moorhampton; v.h.c., Mrs. Wood, Thruxton.

Twelve 1-lb. Jars Extracted Honey.—1st, J. Helm; 2nd, W. Tompkins, Burghill, 3rd, C. Turner, Byford; v.h.c., J. Helm, C. Edwards, A. W. Burgoyne, and the Rev. W. Head (Brilley); h.c., Mrs. Blashill, Mrs. Wood, E. J. Thomas.

Six 1-lb. Jars Extracted Honey (novices).—1st, J. Helm; 3nd, A. W. Burgoyne; 3rd, J. E. Williams; v.h.c., J. Helm; h.c., L. H. Hill and A. Anning.

Twelve 1-lb. Section.—1st, J. Helm; 2nd, J. H. Wootton; 3rd, C. Turner; h.c., Mrs. Blashill and C. Edwards.

Six 1-lb. Sections (novices).—1st, Miss M. Wootton, Stretton Sugwas; 2nd, J. Helm; 3rd, J. E. Williams.

Three Shallow Frames of Comb Honey (for extracting).—1st, J. Helm; 2nd, J. E. Williams.

Exhibit of Honey in any Shape (cottagers only).—1st, A. Anning; 2nd, A. J. Burgoyne.—(*Communicated.*)

HONEY SHOW AT WOODFORD, WILTS.

The annual show of the Woodford and District Horticultural Society was held at Heale Park, Woodford, by permission of the Hon. Louis Greville (President of the Society) on the 21st prox. The exhibits staged were well up to the average in quality, and in numbers far exceeded those of any previous year, the total entries in all sections exceeding 1,000. In the honey class (open) sections beautiful in colour of the new size (5 by 4½ by 2) were staged and won first prize.

The following are the awards :—

Six 1-lb. Sections (open).—1st, Mr. Norris, Bradford-on-Avon; 2nd, F. Blake.

Six 1-lb. Jars Extracted Honey.—1st, W. G. Dear, Woodford; 2nd, E. Staples.

Six 1-lb. Sections (cottagers, artisans, and labourers).—1st, G. Smith; 2nd, W. G. Dear.

Six 1-lb. Jars Extracted Honey.—1st, W. G. Dear; 2nd, E. Stokes.

Beeswax.—1st, Mrs. E. Beauchamp; 2nd, F. Blake.

LEICESTERSHIRE B.K.A.

This Association held its second Exhibition of Bees and Honey in connection with the Show of the Loughborough Agricultural Society on September 18. This adjunct to the show has been restored after remaining in abeyance for some years, and the exhibition fully justified the promoters in including a honey section in future shows. The exhibits

were very good, the quality being highly meritorious.

In the course of the afternoon Mr. Riley, Leicester, gave lectures on bee-keeping and also demonstrations in the bee-tent.

Mr. Riley and Mr. W. P. Meadows undertook the duties of judges, and made the following awards :—

Twelve 1-lb. Jars Extracted Honey.—1st, J. Waterfield, Kibworth; 2nd, H. Dilworth, Shangton; 3rd, J. G. Payne, Lutterworth.

Twelve 1-lb. Sections.—1st, J. Waterfield; 2nd, H. Dilworth.

Single 1-lb. Jar Extracted Honey.—1st, J. Waterfield; h.c., J. G. Payne, Lutterworth.

DISTRICT ONLY.

Six 1-lb. Jars Light-coloured Honey.—1st, W. Baldock, Loughborough; 2nd, W. C. Lowe, Rothley.

Six 1-lb. Jars Dark-coloured Honey.—1st, G. J. Levers, Loughborough; 2nd, W. Baldock.

Six 1-lb. Sections.—1st, W. C. Lowe, Rothley; 2nd, G. J. Levers, Loughborough; h.c., J. B. Jones, Loughborough.—(*Communicated.*)

PROPOSED TESTIMONIAL TO MR. J. M. HOOKER.

We have much pleasure in publishing the following note just received.—[EDS.]

Readers of the B.B. JOURNAL will probably have noticed an advertisement in the issue of the 19th inst., which incidentally notifies that Mr. J. M. Hooker is on the eve of leaving this country for America. This fact has prompted to the minds of some of his friends that the occasion is one that should not be allowed to pass without some collective action on the part of the bee-keeping fraternity, in order to show its appreciation of the valuable services to the cause of bee-keeping rendered by Mr. Hooker over the whole period in which modern methods have been in course of development. Mr. Hooker was one of the first to take action in the formation of the British Bee-keepers' Association, and has taken a prominent part in every important act that has gone to establish bee-keeping as a practical pursuit. Amongst these he has assisted in the production of "Modern Bee-keeping," and its subsequent revisions; the well-known Diagrams illustrative of the Relation of Bees to Flowers; the establishing of the "standard frame," &c. Mr. Hooker has also been a fertile originator and maker of hives and their fittings. In brief, it may be said that he has been one of the pillars of scientific bee-keeping, and may claim to be the father of the present Council of the B.B.K.A. That his departure will leave a great gap will be acknowledged by all. The hope, therefore, is strongly entertained that the appeal to all bee-keepers which is hereby made, to present to him a testimonial, accompanied with a gift—the form of which has yet to be decided—will be heartily responded to, as an assurance of the warm feelings of friendship entertained towards him.

The following have agreed to act as a Committee for the carrying out of the above :—The Hon. and Rev. Henry Bligh, the Rev. Dr. Bartrum, H. W. Harris, late Vice-Chairman of the B.B.K.A.; Messrs. Henry Jonas, E. D. Till, W. Broughton Carr, and Jesse Garratt, the last-named of whom is appointed Secretary and Treasurer.

Subscriptions may be forwarded to the BRITISH BEE JOURNAL Office, or to the Hon. Treasurer, Mr. Jesse Garratt, Meopham, Kent, and will be duly acknowledged in the columns of the B.B.J.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

SOME ESSEX NOTES.

[4506] *Some Things that Help the Bees.*—The number of bee-keepers who have sufficient land at their disposal to be able to plant and sow such things as are certain to be helpful to their bees is small, and such of your readers as possess the control of garden-land often shut their eyes to the fact that, weather permitting, they have matters in their own hands to an extent quite unknown to the average bee-keeper. I believe it is admitted on all hands that farmers are as a rule bad gardeners, and my experience of farmers as bee-keepers is that they are generally poor bee-keepers. What a number of things the farmer can grow that, besides working in well in his regular course of "cropping," would be a considerable help in securing a large yield from his bees! I broached this subject to a farmer—who has become the owner of a large apiary recently—but both he and his wife were down upon me in a moment with the question, "Who can plant for their bees?" Then the farmer's good-wife added, "If we haven't got what they want they can go further afield." I may say here that this farmer is a poor bee-keeper.

It is not necessary to go outside the usual farm crops to grow forage that will be of the utmost value to the bees, and, therefore, to the farmer himself. A small breadth of turnips or any member of the brassica family grown for seed will yield a quantity of good honey for extracting in May. In the second half of May trifolium and trefoil yield well of nectar. From

the fourth week of May to mid-June sainfoin fills the bill and fills it well. From about June 6 to mid-July the several sorts of white clover more than occupy the bees' time; and in the second week of July the lime-tree often yields nectar in quantities both pleasing and astonishing.

Then from mid-July the second flowering of the early-cut sainfoin will follow on, and if the bloom of one field is to be left to "seed" another may be cut now, and will, with average warm weather, flower a third time at the end of August. During the month of August the second crop of red clover usually yields a quantity of very good though deep-coloured honey in this district. Having carried the early corn, the farmer is often anxious to secure a "catch crop" if possible. Usually it is something for the sheep that he is in need of. Acre mustard comes in well, and if worked right may be had in flower through September and October. But though mustard is most valuable as a honey-yielding plant, the hives require careful working for this and also for honey from turnips, &c., as these honeys granulate so quickly. Besides the plants mentioned, lucerne and vetches, commonly called "tares" in the country, are both valuable as bee-plants, and work in well between other crops. Vetches produce wax of a most pleasing red colour. I have had many inquiries in varied form from small bee-keepers such as, "What can I grow for my bees?" There are a number of plants that may be grown by small bee-keepers for their bees, but judgment must be exercised in planting and sowing the seeds. Seeds are bought with directions to sow March to June, but these directions are insufficient for the bee-keeper's purpose. If mignonette, sunflower, and forage seeds and the like are sown in June and July, they grow into flowering plants that are so helpful to the bees from August to October. But if these same plants are grown in the season common to them, the bees have neither the time nor inclination to visit them. At the present moment the question is, What can we do now to increase the forage for our bees? Well, we can plant white arabis, or white rock, a spring flowering bee-plant of the first rank, and it is not too late to transplant seedling wallflowers. Then there are numerous bulbs that may be planted now that will please the eye of the bee-keeper in spring as well as being so helpful to the bees. The present is the best time to plant bulbs. The snowdrop to flower in January and February; the crocus in variety if desired for flowering in February and March; and, if luxuries are obtainable, hyacinths for flowering in April and May. Of shrubs there are not many that can be grown in quantity, but the flowering currant, which may be had both in pink and white, is most useful for the bees, and, flowering as it does in the very early spring, give brightness to the garden. There is also the later flowering berberis, an evergreen flowering shrub yielding both honey and pollen. Of shrubs for the bees in late autumn and winter, the common, but evergreen, ivy yields well in mild weather of both honey and pollen; and the laurustinus, besides busying the bees on sunny days in winter, should be planted for its own sake. Fruit trees and bushes are all useful as yielding nectar for the bees, but I must leave bee-keepers to make their own choice of these.

Garden Notes.—Lift all potatoes. These must be dried and stored in a cool place, or may be clamped in the open. Lift beetroot carefully, also carrots in dry weather, and store both in sand or dry mould in a cool place. Apply manure to all vacant ground in need of it. Trench or dig deeply and roughly, so as to expose as much as possible to atmospheric action all vacant ground.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

STRAY SWARMS OF BEES.

[4507.] As an expert under the Worcestershire County Council I meet with swarms of bees in various positions other than in skeps and bar-frame hives. In one cottager's apiary I found several stocks in butter-buckets, boxes, skeps, and a couple of ill-formed frame hives, with a bar in places several inches apart filled between with combs in all forms. On top of bars and old clothing the bees had built combs *upwards*—not suspended—and a beautiful lot of fresh white comb-honey. At a farmhouse, partly old timber with bricks and mortar between, a space about 6 in. wide had been left between the outer wall and inner plaster wall, in which a colony of bees had located themselves, it was said at least twenty years. With hammer and chisel I took off the brickwork to the extent of 4 ft. 6 in. long and 4 ft. wide, which was packed with combs, honey, and bees. I kept the bees under subjection with smoker and carbolic cloths for about five hours without veil, gloves, or jacket, without a sting, except on the hand in laying hold of the combs in taking out. I estimated the gross weight at about 1½ cwt. Some of the combs were nearly 5 ft. long, and some of the honeycomb 5 in. thick. I am feeding the bees and hope to bring out a stock from them in a frame-hive. I know of five stocks in hollow trees, but fear they must stay there.—James Hiam, *Astwood Bank, Redditch, September* 23.

HOW TO BUILD AN APIARY WORKSHOP.

[4508.] We have had letters and queries on almost every subject connected with bees and, therefore, now that the long evenings of winter are drawing near, suppose we consider—by way of change—the strengths and sizes of timber necessary to build a small workshop sufficiently large to enable an

amateur joiner to make a bar frame-hive in? I enclose a sketch giving my ideas of the subject, to be taken for what they are worth. Fig. 1 represents the framework in elevation; fig. 2 gives the plan (minus roof) as it appears looking from above; fig. 3 shows the front elevation, looking through the windows, with the framework boarded over, and strips over joints.

To detail the requirements and to build a substantial workshop of wood, easily removable, we shall require four posts of red deal 7 ft. long and 3 in. square, planed over and squared up, as shown at A, figs. 1-2. We now require ten pieces 6 ft. long, 3 in. wide, 2 in. thick, nine of these as shown at B, figs. 1-2, and by a dotted line under the window, fig. 3. These require mortising into the upright posts A, figs. 1-2. The tenth piece is shown at C, fig. 1, forming the left-hand side of door-frame, similarly fitted at ends into cross-stays B, fig. 1. We now require one short piece 3 ft. long, 3 in. by 2 in., as shown at D, fig. 3, for centre piece between windows. Plane all these pieces over, and mortise upright posts A, fig. 2, so that cross-stays B, fig. 2, will be level with the outside facings of uprights, as seen on fig. 2. Assuming that all the mortise-holes have been cut out, and the ends of all cross-pieces are now tenoned and fitted, we must first paint inside the mortise-holes and the tenons with a fairly thick coat of priming. The next thing to do is to clamp the framework together, and being careful to use a hard piece of wood to hammer on when driving the posts on to the tenons; this will prevent marking the uprights with the hammer. We are now ready for the framework of roof, for which we require four pieces E, fig. 1, 4 ft. 6 in. long, 4 in. wide, 1½ in. thick; also one short centre piece F, fig. 1, 9 in. long, 2¼ in. square, to mortise the top ends of the four pieces into, by notching a piece out at the lower ends, as shown at O, fig. 1. These will then butt against the inside corners of uprights. A bevel will be required to cut the ends of these pieces to the correct angle, care being necessary to have them all the same length, which will materially add to the squareness and firmness of the job. Paint the ends and mortise-holes in centre piece F, fig. 1, after which drive all tight together, when a single 3-in. nail at each corner will hold down the whole. Our framework is now complete. We will therefore give it a first coat of priming paint, and when this is dry proceed to board over the skeleton with 6½ in. by ¾ in. tongued and grooved boards; when this is finished get four pieces of sheet-zinc, 12 in. wide and 4 ft. 6 in. long, to cover the joints on roof, as shown at Z, fig. 3. Next fit in your floor of 1-in. tongued and grooved boards; then prime the outside with good paint made from red lead and oxide with linseed oil, no dryers, no turps. While this is drying make your door to fit the 2-ft. opening (fig. 1), and prepare the windows, the exact dimensions of which can now be got by measuring the framework. Leave the stripping of the joints for a season, as all boards dry in. You are now ready to fix your vane. When this is done mind the step, and finish painting outside. Your workshop is now built. I will describe my internal fittings and costs in a later communication, hoping I have made all so far quite clear.—William W. Kay, *Woodbines Apiary, St. Brelades, Jersey, C.I., September* 26.

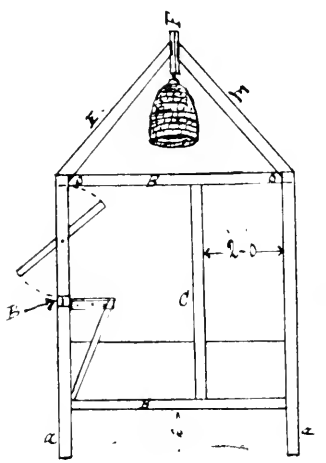


Fig. 1.

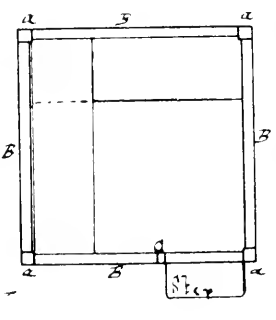


Fig. 2.

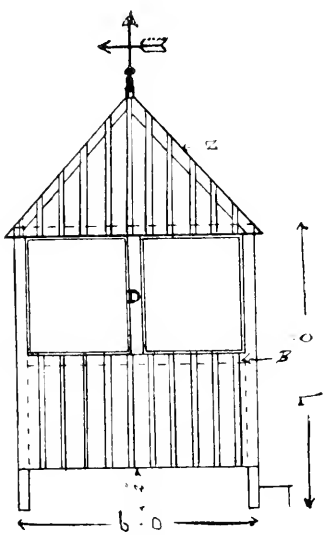


Fig. 3.

ENEMIES OF BEES.

[4509.] In the "Guide Book," I see Mr. Cowan refers to the blind louse (*Braula cœca*) as one of the enemies of bees. He remarks that it is often found clinging to the bees in large numbers, but it is not known what harm it does to them. Is this blind louse the same insect as the harvest bug, which is the larval form of the silky trombidium (*Trombidium holosericum*), order Acarinæ? The harvest bug flourishes in gardens and grass fields, and is particularly active in late afternoon and evening. It is bright scarlet, has six legs, and short stout mandibles, and is very active, but so small as to be scarcely visible to the naked eye. The larva is hatched from the egg, which is laid in May, about June or July, and is entirely carnivorous, attaching itself, *inter alia*, to mankind and bees. It cannot travel under the skin, but travels over the surface with astonishing rapidity. It bites into the skin and remains to suck blood and juices, and when it has had a full meal falls off, much swollen and quite visible. In August or September the larva hibernates, and next spring emerges as an entirely herbivorous eight-legged acarus. The effect of the bite on human beings is to produce a small lump, which is very irritating, as it itches greatly. To prevent bites on human beings the great remedy is thick, close-fitting clothing, and good thick stockings. A good preventative also is to rub the ankles and lower legs with essential oils, a mixture of eucalyptus and some rectified paraffin, such as Dee oil with a small admixture of peppermint or clove oil. A very good account of the harvest bug is given in "Chambers' Encyclopædia."

Now if these two insects are identical, which seems probable, as the description given of the harvest bug seems to agree with that given in Mr. Cowan's book of the blind louse, the insect must be very injurious to the bees, as it feeds on blood and juices. Could any of the oils mentioned be used in any way in the hive to get rid of these pests?

Some correspondence on the subject of the harvest bug appeared in the *Lancet* for the 7th and 14th inst., and in the *British Medical Journal* for the 14th inst. It was from a letter in the latter journal that I have copied the above information about the harvest bug, as I thought it would interest, and perhaps be useful to, bee-keepers.—J. Holdown, *St. Augustine's road, London, N., September* 28.

[It is very difficult to use "oils" inside hives as a preventive of insect pests. Remedies in the shape of oils or liquids can only be used with advantage outside hives, as when preventing the inroads of ants.—Eds.]

NOTES FROM WYCHWOOD FOREST.

[4510.] I saw an exhibit the other day at Woodstock Flower Show which goes far to prove that we have had an excellent honey season in this district. The said exhibit was a large bell-glass, square-shaped at bottom and rounded at the top. The glass measured about 12 in. square by 18 in. high, and was well filled with beautiful honey-comb, weighing about 70 lb., the glass and board it stood on weighing 76 lb. altogether. Mr. Turney, the exhibitor, said he had endeavoured to get the same glass filled twice before, but failed until this year. I inquired if the glass had been worked on a skep or a bar-frame hive, but I failed to find out. It was worth seeing as a good example of bee-work, and is, I suppose, a record bell-glass for our district.

The question has been raised in Bee Journal whether it is advisable to always use ten frames in a hive when starting a new colony. For myself, I may say that when hiving a swarm I start the bees in six or seven frames, increase the number to eight or nine. In this way I also often get a nice few sections off a small lot of bees that would have given almost no surplus had I kept them at work on the full ten frames in the body of hive. It is also a good plan sometimes, when supering stocks, to contract the hive by removing a frame from brood-nest, pushing up the dummy-board; the bees thus finding themselves confined for room go aloft and set to business there.

There must be *some* queer bee-keepers in the world according to my experience. These write asking you to supply them with bees, and then forget to acknowledge receipt of same or to answer a letter. Yet a letter to the chief of police in the locality they reside gets me a prompt reply: "Address right. Mr. ——— is a man of independent means." So one must wait with patience for return of empties and the *cash!*—J. Kibble, *Charlbury.*

MR. RYMER'S METHOD OF BEE-WORK.

[4511.] I think the time has now come when those of us who have tried to prevent swarming by the above method should give our experiences for the benefit of the craft. Personally, I must say with me it was a failure—not that it did not prevent swarming, but that it was the means of me having two queens superseded. The queens were both in their second year, which I consider their best, and were with their stock on three-year-old frames, so I put an extra ten frames fitted with full sheets of "Weed" foundation in a chamber below them, with the adapter on the top, in the second week in June, both colonies being then very strong. All appeared to go well until the first week in July, when I had the mortification of seeing the queen of each hive lying dead on the flight-board. Of course that was an end to the system, and a different method had to be tried.

I found that the spare chamber in each case had been taken to by the bees, and the

foundation was well drawn out, and in some of the frames honey and pollen had been stored, so that the fault must have been with the queens refusing to enter the lower chamber. I may say the season here has only been second-rate, the drought nearly ruining the clover, and part honey-dew was gathered. The heather crop was about the same as last year and not up to the average. I had one stock which I had nursed up from a very weak condition in the spring to about "boiling point" by August 1, which gave me two racks of sections beautifully filled and sealed in six days, but these were the only days in which honey in any quantity was gathered, through the weather breaking and the rain washing out what honey remained in the best of all honey plants, the ling.—JNO. H. WILLCOX, *Haydon Bridge, Northumberland, September* 27.

HONEY ALL THE YEAR ROUND.

[4512.] I am very much obliged to "A. A. H.," Hants (page 344), and to Mr. A. Arnold King (page 377) for their contributions on this subject. I had hoped that some member of the craft who had lived in the West Indies would have given us his experience of bees in that country and the amount of his "takes." To say, as some have done, that if bees are taken to a country like Australia or the West Indies they forget or disregard one of the very laws of their nature and on which their whole existence depended, is to me all moonshine. I was going to ask the same question as Mr. King, from whence, then, comes the Australian and West Indian honey if the bees so far forget to depend on the sting test; also how they are bred, whether the queens live several years or only one season, and do the common wasps develop into queens the second year if able to preserve themselves alive? If so, it does away with the theory that winged insects never grow after the wings are developed, or do they do as I think is the case: the queen lays queen-eggs towards the latter part of the season? Then how are they fertilised? I know this is a bit foreign to bee-keeping, but still it is a subject of interest to bee-keepers.—A. GODSLAND, *Bovey Tracey, Devon.*

Queries and Replies.

[2730.] *Keeping Bees in India.*—I hope you will excuse my bothering you for advice under the following circumstances. I am at home at present on leave from India, and return there on October 24 next, and from reading "The British Bee-keepers' Guide Book" and one by Mr. Simmins I have become much interested in the subject, and, though I have no practical experience whatever in bee-keeping, I would like to attempt the experiment of keeping them in India. I would therefore be exceedingly obliged for your valuable opinion as to whether it would be feasible. I will be stationed for the next four years at Ootacamund—a hill station in the Nilgiri Hills, Madras Presidency, 6,000 ft. above sea-level, and consequently never very hot, but where flowers blossom in profusion, arum lilies grow wild, and heliotrope forms most of the hedges, growing to a height of about 6 ft. To tabulate my questions they are:—1. Do you know whether the experiment has ever been tried before there? As far as I know it has not. 2. Would you advise me to take out a swarm, or only some queen-bees and obtain the local wild bees, which are fairly plentiful in the jungle, as a nucleus? 3. Would I be likely to have any trouble with them on the journey, which would occupy a little over a fortnight by steamer and about four days by rail, the last ten days or so of which would be very hot? 4. As the experiment would only be for personal amusement, I do not wish to incur too much expense and would, therefore, propose starting with one hive. Could this be done at an expenditure of, say, £5? 5. If I took out a couple of fertilised queens, would it be unnecessary to obtain drones of the local wild bees with the nucleus? 6. Could you let me have a complete list of articles I require, and recommend me where to obtain them; also whence to procure the bees, also species recommended? 7. Would sheets of foundation stand the heat of the Red Sea and journey across the plains of India? The local wild bees are, so far as I can remember, rather smaller than, though very much like, the small English black bee, and seem very quiet, seldom attacking the natives, even when they rob their nests. Of course, it will be winter when I arrive at my station, and I might be unable to obtain a swarm at once. 8. Would this much affect the imported queens, and how long would they live without being joined to a swarm? I am confident that there would be no lack of food for the bees at Ootacamund, as, in addition to large quantities of flowers, there are numerous flowering trees, and English fruit-trees do well there. I will be very grateful if you would kindly favour me with an answer, as I sail from Marseilles on October 24 next, and would propose to take the bees with me in my cabin, which I have to myself. —G. DE H. S. (Major), Central India Horse, *London, S.E., September* 28.

REPLY.—1. In the first place, there is no doubt that bees can be, and are, kept in India. We have not heard of swarms or stocks of bees being taken out; in fact, it would be useless trouble and expense to make the attempt. The feasible plan would be to procure a stock of the native hive-bees when out there and introduce a queen from Europe, after having managed the "natives" for a little while. 2. Simply a queen with a few score worker-bees to keep her company, and this

only if it was certain that a stock of bees could be obtained immediately on reaching your station. 3. No; the cage or box in which the bees would travel would only need packing away in a cool airy place if weather was hot. 4. The sum named would quite cover expenses. 5. No; the queen would already be fertilised. 6. A visit to a reliable appliance maker would show you all goods needed and cost of same. Names and addresses can be seen in our advertisement columns. 7. Yes, if properly packed. 8. The queen taken out should be introduced to a stock (not a swarm) if possible within a week after arrival.

[2731.] *About Hive Making.*—May I ask you a few questions about bees:—1. Roofs. Which is the best covering for roofs, zinc or any of the patent felts, such a paper felt, tar felt? Of course felt would be warmer, but most of them are of dark colour and would not look so well, besides being more easily broken. 2. Body boxes. Before putting my questions perhaps I had better describe the usual cheap hive. There is a movable floor-board to which is attached an alighting board; over this is the hive, which has double walls, back and front, with single side walls. Ten frames with metal ends are provided with two "dummies," but when all ten frames are in, with the ends on, there is just room of one dummy which is close against the side of the hive. The frames rest on the wood of the inner wall, which has no metal runners. (*a*) Does such a hive require an outside case all the year round or only in winter? (*b*) Should the case be made to fit all round the hive, or would one for the sides only be sufficient, as there are already double walls back and front? (*c*) Could it be worked satisfactorily by using the dummies so as to have a space between them and the side wall in which a quilt stuffed with chaff could be placed? (*d*) Would it suffice if metal runners were fixed on to the wooden sides as close as they will go without sinking them flush with the sides? 3. Should the pieces of wood used to close the entrance be painted? I suppose the under part of the floor-board should. 4. Can section racks be worked without metal girders or runners, or will the bees fix the sections to the wooden bars? Of course separators are used.—J. H., *London, N.W., September* 27.

REPLY.—1. The best covering for roofs is zinc. The other materials named are good and efficient if kept in repair and regularly painted; but zinc is always waterproof. 2. The hive described requires no outer case at all and is not intended for one, the "dummies" forming the double walls and sides in winter. You cannot improve on the work of regular appliance-makers by introducing changes such as merely strike an amateur joiner; therefore we advise leaving the metal runners as now made. 3. Yes. 4. We cannot see how sections can possibly be worked in racks without girders or runners, either of metal or wood. Do you suggest placing the sections direct on top-bars of frames? If so, we only reply, "It won't work."

[2732.] *Working "Wells" Hives.*—Will you kindly give your opinion on the following?—I bought a double or "Wells" hive, one accommodating two queens and two swarms. I thought the double hive was already fitted up and complete for a season's work. At the beginning of August I noticed the bees of one compartment robbing the other side, and fearing something wrong I had a look among the combs, and then saw plainly what was up, for neither queen nor brood could be seen in the part being robbed, and the bees were carrying all stores into other side. The two stocks seemed to have joined up owing to their having acquired the same scent I suppose through perforated zinc and working in the super together. I therefore ask: Would you advise me to get a stock of driven bees and unite them to the few left in the queenless half, or should I let them go with the other swarm and make an extra strong stock to winter on?—"SUNNYSIDE," *Gateshead, September* 19.

REPLY.—It is so common to find the bees in one compartment—after becoming queenless—joining forces with their neighbours in the other half that it can hardly be called "robbing" when this occurs; it is merely an amicable "flitting" next door, and may be regarded as such. Any attempt to re-establish a stock in the deserted compartment just now would probably lead to real "robbing" and perhaps worse, so just let the few bees left behind join the others in their own time, and leave one compartment—after closing it up—empty till next season.

[2733.] *Diagnosing Foul Brood.*—When looking through my hives yesterday I noticed in one of them two patches which I did not like the look of, so cut them out, and now enclose them to you, requesting that you will please say in the BEE JOURNAL if it is a case of foul brood. The pieces were cut out of different frames, and there were one or two isolated cells sealed over in the same manner as the larger piece in other frames in the same hive. The hive is not a very strong one, but has a this year's queen, and is being fed with candy. There is no other brood in the hive. Last time I looked at it it appeared perfectly right in every way, with lots of young bees hatching out. Thanking you in anticipation.—RAVEN, *Bromley, Kent.*

REPLY.—We advisedly give prominence here to your query, which in the usual course would have been replied to briefly in another column. It was fortunate that the smaller piece of comb was sent along with the larger sample. The sealed cells in the latter were, to an inexperienced eye, clearly indicative of a bad case of foul brood—cappings concave and dark in colour, just as are often seen where brood, and this in many scores of cells. With so large a number of samples to examine as

falls to our lot, to say nothing of personal experience of the disease, the symptoms were easily recognised, and when probed every cell in the sample was found full of thick honey (or syrup) only. The small sample, with less than half a dozen sealed cells in all, was found to be plainly affected with foul brood. In this way, then, but for having the second piece sent, we should, of course, have notified the hive as free from foul brood.

[2734.] *Queen Rearing in August.*—In rearing some queens this August I got three all hatched same day. Two were hatched in the same body-box, with dummy between. I introduced one of these to a "Wells" hive, and she has been laying for a couple of weeks past. The sister to this one, and also one in another hive, have not laid a single egg, although I saw them fly on their mating trip, and saw them return three weeks ago on Sunday next. But the bees of these two virgin queens have been turning the drones out for the last fortnight. What I would like to know is—1. Do you think the above queens are mated? 2. If so, why so long in commencing to lay? 3. If not, why do the bees expel the drones? I may add that I have been stimulating for a week with one hive, and I have sent for a queen for the other.—H. WALKER, *Newton-le-Willows, Lancs, September* 27.

P.S.—A very good crop this season in this district, chiefly white clover, my own bees averaging over 100 lb. per stock, with plenty of natural stores for winter.

REPLY.—1 and 2. We rather think they are mated. Examine combs again when this appears in print, and if eggs are found all will be right, as unmated queens are some time before starting to lay. 3. This is the one thing that points to mating having taken place.

REVIEWS OF FOREIGN BEE-PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Bulletin de la Société d'Apiculture du Tarn (France).—The foot and mouth disease in cattle is largely treated with honey. The Government publishes large placards with following instructions:—"To treat effectually this disease, first remove the small skins resulting from the breaking of the blisters; then bathe the mouth with water in which vinegar and honey have been mixed." The writer himself experienced similar symptoms in the mouth as the animals, but it was quite cured in a few days by the use of honey alone.

Gazette Apicole de France.—"For more than fifty years the inhabitants of Moldavia and Ukraine have prepared a kind of sugar (white and solid) from honey, and this sugar is used by the Dantzig distillers in manufacturing the liqueurs so highly esteemed in that country. The method of preparation is to place the honey in casks and expose it to frost during three weeks, and it is with this sugar that 'rosolia' is made, which is held in such high estimation by the Italian confectioners."

La Nature.—A doctor of Arcachon has given with much success the following preparation:—Honey (one part), fresh butter (two parts). These ingredients are well mixed and used in lieu of cod-liver oil. The mixture named forms a pale golden-coloured cream, fresh to the taste and taken to eagerly by children.

"Canaries suffer at times from a malady which causes the plumage to become dull and lose its colour; their little claws become rigid, and they can often hardly stand; their song also completely ceases.

As a remedy, it is advised to give every morning a little breadcrumbs soaked in warm honey.

The canary refuses this food at first, but soon takes to it, and improvement gradually sets in. The rigidity of the feet disappears, and the plumage recovers its lustre and its colour; the bird resumes its song clear and vigorous."

Schweizerische Beinenzeitung (*Australian Bee Bulletin*).—"An Australian bee-keeper, having to supply his bees with water, found that 200 colonies used up 1,500 gallons of the precious fluid in sixty-five days."

A bee-keeper asks how to clear his combs of bees found head foremost in the cells, as is usual when they die of hunger. An obliging confrère gives him several ideas on the subject. He says:—1. Mice do this duty with great pleasure, but they spoil the combs. 2. By exposing the combs in a very dry place the dead bees will shrivel up and fall out with a gentle tap. The third and best remedy is to winter the bees with sufficient provisions and so prevent the bees from dying in the cells.

Bienenwirthshaftliches Centralblatt.—Do fowls eat bees? In Oldesloe, in Mecklenburg, fifty colonies of bees were kept close to a fowl-run, where the fowls had full liberty to roam at will and about the hives. They ate the refuse thrown out by the hives, but never touched a live bee. But here (in Doberau) a dozen fowls kept in a small closed place hunted after every bee that crossed their yard. How can we explain the difference? Probably the last-named fowls, being shut in, suffered from want of animal food. Therefore they hunted after bees, flies, &c. Ennui has a great deal to do with this. As we see fowls confined in close spaces plucking each others' feathers out—clearly want of proper food and occupation.

L'Apiculteur.—Elementary instruction in agriculture is being provided in some of the barracks with a view to keep up the interest of the young countrymen in husbandry and country pursuits in general. The Consul-General of La Vendée has voted 500 francs between the 93rd and the 137th regiments of

infantry in garrison at Fontenay-le-Comte. This sum will be used to organise an elementary course of apiculture, to the purchase of instruments, books, mural placards, &c. It is hoped that this example will be followed in the other departments and other garrisons.

Leipziger Bienenzeitung.. Bee Stings and Rheumatism. — A doctor in Marburg has tried the effect of bee stings in 100 cases of rheumatism, and publishes the following conclusions :—Bee stings can be applied to all cases of rheumatism. In light cases, or sudden and acute disease, it is usually successful after a few stings. Chronic cases usually require some hundreds of them. The longer and the more complicated the illness the more useful is the sting cure likely to be. It brings relief even where a kind of rheumatic consumption has set in and where other remedies give little or only temporary alleviation. Where the disease has affected the heart, it is especially valuable. Only in bad cases there must be patience exercised, as the cure must be continued as long as there is any rheumatic pain. Notwithstanding the pain of the stings, the patient develops a better state of general health and a hopeful condition—a looking forward to a complete return to normal health, which quite removes the fear of the sting.

Bee Shows to Come.

October 5, at the Y.M.C.A. Hall, Newcastle-on-Tyne.—Northumberland and Durham B.K.A. Third annual show of Bees, Honey, and Beeproduce. Twelve classes. Entry fee, 1s. Schedules from Jas. Waddell, Wooler, Northumberland. **Entries close October 5.**

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries closed.**

October 24 and 25, at Kilmarnock.—Honey Show in connection with the Ayrshire Agricultural Association. Eleven classes for honey, with liberal money prizes. Schedules from John Howie, Secretary, 58, Alloway-street, Ayr. **Entries close October 11.**

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for hives. Schedules from J. Palmer, Hon. Secretary, 17, Brandane, Ludlow. **Entries close November 5.**

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. A. (Corbridge-on-Tyne).—*Expert's Certificates.*—Mr. Edwin H. Young is Secretary of the B.B.K.A., and as such will afford you the needful information both with regard to membership and the steps necessary to obtain the Expert's Certificates of the Association. The address of the B.B.K.A. is 12, Hanover-square, London, W.

A Beginner (Birmingham).—*Joining Association.*—The hon. secretary of Worcester B.K.A. is Mr. H. Phillips, Spetchley, Worcestershire.

Ed. O. Brayshaw (Bradford).—*Wool as Packing for Hives.*—Everything in the nature of wool or cotton is most objectionable as packing for bees if the latter can have access to it. They will spend days in the vain endeavour to carry it out, and scores of bees will be killed by getting the shreds about their necks.

F. T. Paul (Liverpool).—*Races of Bees.*—The bees (sent in air-tight glass phial) were apparently alive when put up, as they were completely saturated with honey regurgitated from their honey-sacs when dying for want of air. We could not possibly say what the markings are under the conditions when received.

T. J. L. King (Walthamstow). — *Honey Sample.*—Sample is from mixed sources, very good in colour and density, but has a rather "rank" flavour, objectionable to most consumers of table honey.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

Ignorant (Northumberland).—Surely you must have sent wrong sample of comb. There is not a trace of sealed brood in it, or indeed of brood at all. We cannot judge whether the stock is diseased or not unless the cells contain brood.

C. B. (Hassocks).—Comb is affected with foul brood, but not of virulent type, or, indeed, very pronounced, but it is there.

Sunniside (Gateshead-on-Tyne).—Not a trace of any brood in comb ; the few half filled cells contain only fresh pollen.

J. W. R. (Scarborough).—Bad case of "F.B."

R. Statton (Sanford).—Only chilled brood in sample sent, but comb is very black and old—in fact, unfit for use. There may be disease in other combs.

J. C., sen. (Lancaster).—Foul brood in No. 1. Disease is also developing in No. 2.

C. Roberts.—None of the four sealed cells contained anything but honey—or syrup. No trace of any brood in sample.

*** Some interesting letters and also replies to a few queries are in type, but unavoidably held over till next week.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

A conversazione of members of the above Association will be held in the Board Room, 105, Jermyn-street, London, S.W., on Thursday, October 10, at 5 p.m., when it is hoped that many bee-keepers may be able to be present. Refreshments will be provided.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE ANTENNÆ OF THE BEE.

[4513.] These "feelers," as ancient bee-men commonly call them, are situated on either side of a prominent ridge, which stretches down the centre of the face from the crown of the head to the nose or clypus. The name truly describes one duty which they perform, and, though they contain the seat of some further sense or senses, the most casual observer must have seen how much they are used as organs of touch. They are real marvels of construction and design, and carry out their duties in so admirable a way that one feels puzzled to find words adequately fitted to describe them. If a temptation to use terms approaching exaggeration has now and again obtruded itself in describing other organs, in the case of the antennæ these terms can scarcely be withheld.

But I refrain, as "I have ceased to look for anything more beautiful in this world or more interesting than the truth." Just fancy an appliance, hardly noticed by many bee-men, which (science reveals to us) contains 5,000 "smell hollows" in the case of the worker, while the olfactory cavities, in the case of the male, numbers the almost incredible total of 37,800 for each antennæ, and, if we are to credit Cheshire's calculation, they are studded with 12,000 tactile hairs. What sensitive organs of smell and touch they must be! Simply defined, these tentacles or feelers may be described as sense organs of a cylindrical form, with twelve or thirteen joints so arranged as to enable the organ to move in all directions. That, with the above marvels, which the microscope reveals, studding their surface, is all I need say regarding their shape and construction. But when we inquire into the subject of their functions and duties, a wide field for speculation is opened, because here is one of the many enigmas of the hive which compel M. Maeterlinck to exclaim, "We have often to halt before the unknown, for we know but little compared with what we have still to learn." Some have supposed that the antennæ are perhaps the seat of some unknown sense that fathoms and measures the darkness in the interior of the hive, and undoubtedly they contain many organs as yet unexplained.

Let me be content at present with noting a few of the more obvious uses and duties of these wonderful sense organs. Every bee-keeper who has closely observed bees arriving in front of the entrance of a hive must have seen the "guards" feel these with their antennæ. If the would-be intruder is a stranger attempting to enter where she has no right or title to be, woe betide that bee. For all such there might be written, in bee-caligraphy, Dante's inscription over another place, "Abandon hope all ye who enter here." On the other hand, how gentle is the treatment accorded all who are true sisters of the hive, for these sensitive feelers caress and fondle all such with loving tenderness.

View the care and kindness, the affection and adoration, following the mutual striking of the antennæ by the queen and workers as they meet on the comb in the interior of the hive. But insert a stranger queen without proper precautions, and another tale will be enacted when these organs "spy strangers" present in the house.

Withdraw their queen from the hive and observe what a commotion soon ensues. One bee runs up to another, and the antennæ are reciprocally crossed, conveying the sad and melancholy intelligence that "mother" is gone. Whether the news is conveyed by smell, touch, or some unknown sense, or by simple signs is another enigma, but conveyed it is, and evidently by these marvellous sense-organs. Grand old Huber's observations on this head are well worthy of being studied.

Then, in comb building, what an infinity of shapes the antennæ assume, and to what a multitude of uses they seem to be put. Are they not the architect's and builder's tape, ruler, plumb line, compass, square, and cube all rolled into one, which guides the bees with such wonderful exactness in the construction of their palaces of art, those works of perfection, the hexagonal cells?

When the swarming fever prevails, what a hurry and bustle, with agitation and wild commotion, is suddenly got up apparently by the free intercommunication consequent on the crossing and intercrossing of the antennæ.

They convey by sign or sound the information that the one great Sunday of their lives has come to the bees. Whatever it is, some spiritual communication of immense potency takes place, teaching these teeming thousands that the instinct of the race demands that they should "trek." Where can the seat of this all-powerful genius of the hive be more properly located than in these wonderfully mysterious, awe-inspiring, and uncanny organs, whose depths it has baffled all the devotees of science fully to fathom?

Here is a marvel. Deprived of the antennæ the worker ceases to take any delight in labour, hitherto her god. Love ceases to be the mainspring of existence in the case of the queen, and she neglects to propagate the species. The drone suddenly seems to discover that life (even a life of ease) is not worth living, and he ejects himself voluntarily from the hive. Evidently even the 38,000 eyes on each side of his head are insufficient to guide him aright in the interior of the hive with the antennæ cut off. All three—queen, worker, and drone—find, like Othello, that "their occupation is gone," and with the loss of these organs they prove neuters indeed.—D. M. M., *Banff.*

STARTING BEE-KEEPING.

[4514] I should like to keep bees, having a large garden and open fields at hand, but I am rather appalled, on reading sundry bee-literature and guides, as to the difficulties to be contended with in successful bee-management.

This apprehension is most felt with regard to "foul brood," "wax moth," and other pests, known and unknown, and I desire to ask whether bee-keeping is attended with more than the usual risks of failure and loss. I have kept fowls and succeeded; I have gone in for gardening and again come off well, especially in vegetable culture; but I hesitate about bees, as there does not appear to be the same opportunities for supervision.

How often should hives be uncovered and the internal arrangements examined? I refer, of course, to the working portion of the year, and to the early or swarming season in particular.—S. WALIAN, *Llandaff.*

QUEENS "PIPING."

[4515.] After reading several books on bees I became possessed of the idea that the "piping" of the queen before swarming was the performance of a young queen just hatched out; but on June 29 last my views altered owing to the following circumstance. I must first mention that I clip the wings of the queens as soon as I find that they have been fertilised. A swarm issued on the above-named date, and upon my going to the hive to pick up the queen as usual, I was surprised when at some distance from the hive to hear "piping," and upon inspecting the ground in front of the hive I found the clipped queen standing with her head pointing upwards towards the hive, piping away as hard as she could. Unfortunately she stopped as soon as I got close enough to make a more minute inspection, and so I was unable to form any idea as to how the sound was produced. The swarms returned to the hive about fifteen minutes after leaving it.

Many bee plants have been mentioned lately in the B.B.J., but I have never seen the snowberry (*Symphoricarpus racemosus*) among them, though to my mind it is deserving of a place in every apiary. It began to flower towards the end of May this year in my garden; during the whole summer it has quite hummed with bees, even when the limes were in bloom, and even now (September 26) I see a few bees at work upon odd blooms which still appear on the plants.

Can you give me any information regarding the effects of formalin in foul brood? It seemed to me to be a likely disinfectant to employ as a preventive, as it is non-poisonous, and stronger than carbolic acid as a germicide. I have fed my bees this autumn with syrup containing 1 part of formic aldehyde to 4,000 parts of syrup, and so far it has agreed well with them. It seemed to make them extremely active, but I noticed no excess of ill-temper.—WALTER SCATCHARD, *Faversham, Kent.*

[No; but, without having had any personal experience of formalin, we have no hesitation in saying that, while good, it is no better than a dozen other preventives that could be named. —EDS.]

BEE-HOUSES AND BEE-ESCAPES.

[4516.] I am thinking of building a bee-house this winter, but am a bit puzzled about the arrangement for the escaping of bees from the inside of house, at the same time preventing intruders from coming in. Perhaps some of your readers who have bee-houses would be good enough to say what they have contrived; also any other useful hints in connection with such a house would greatly oblige.—W. KNOWLES-HARLAND, *Hull, September 25.*

KEEPING BEES IN INDIA.

[4517.] I was much interested in reading the queries about this subject in the B.B.J. of October 3. As I have spent several years in India, and studied the habits of the native bees with a view to bee-keeping upon approved principles, I think I can give Major G. de H. S. some useful information.

1. There are bee-keepers in Ceylon who keep Italian bees, and they get honey all the year round, so that (2) it would not be neces-

sary or advisable to take any bees out from Europe.

3. As the temperature in the Red Sea is often over 90 deg., I do not think the bees would stand the journey unless they were kept in or near the ice-room during the very hot days.

4. The quiet local wild bees are so very much smaller than the English or Italian bee, that I do not think it would be possible to introduce an Italian queen to an Indian stock.

One of my brothers, who is a tea planter, has taken many swarms of the small wild bee and hived them in 10-lb. tea chests, measuring about 10 in. by 10 in. by 8 in. He did not make a great success of his bees, as he knew nothing about modern bee-keeping, and used to break the combs away, containing brood as well as honey.

The great enemies of the honey bee in India are the tiny red and black ants, which can only be kept away by standing the legs of the hives in saucers full of water. The tops of these saucers must in turn be protected by small shades, to prevent leaves or dry grass from falling in, as these would in turn make bridges for the tiny robbers to cross the water.

I have seen skeps containing Italian bees in the Himalayas, just above Rajpur, on the way to Mussoorie, and I should think that Major G. de H. S. could easily get into correspondence with the owner by writing to any of the hotel-keepers in Rajpur, or to any of the Government officials stationed there.—J. M. Paterson (Rev.), *Loughton, Essex.*

HOW TO BUILD AN APIARY BEE-HOUSE.

[4518.] Last week we built (on paper) a small apiary workshop, and I now describe the internal fitting up, as promised. A bench is fixed, for convenience of light, in front and immediately below the window, formed of two boards 6 ft. long and 1 in. thick, resting at the ends upon two cross-pieces, and supported in the middle by a leg placed diagonally, to be out of the way, as shown in fig. 1, page 395.

Below the bench on right hand side I fix my tool chest, the front side being a board 6 ft. by 13 in. wide and ¾ in. thick. I make use of the floor as a bottom to the chest, and a board 6 ft. by 1 ft. 6 in. wide forms the lid, which for convenience of opening I hinge to the side of house, this board forms a table upon which I stand my hives when in course of construction, also a seat, as seen by a line partly dotted on plan fig. 2. I divide the chest into compartments in which I store my spare frames, sections, dummies, smoker, and tools in general. I screw hooks into the top crosspieces of framework, upon which my saws, squares, &c., hang, and my hiving and driving skep I hang in the centre of roof, well out of the way but always handy. The cost of all complete is as follows:—

Wood	£2	3	0
Nails		1	6
Hooks		1	0
Lock		1	3
Paint		5	0
Wages	2	7	0
Total ...	£4	18	9

The cost can be considerably cheapened by using white deal for frame instead of red, and by matchboarding outside instead of ¾-in. boards; also by not planing the framework; but such work is unworthy of a place in my apiary.—W. W. Kay, *Woodbines Apiary, St. Brelades, Jersey, C.I.*

MAKESHIFT HIVES.

SAVING THE BEES.

[4519.] Hearing of some bees which were doomed for destruction by sulphur, I set out on a seven miles tramp in the endeavour to save their lives and give the bees a chance. On arriving at my destination I was somewhat disappointed at the prospect of getting the bees out of their novel domiciles, but I prepared to make a start. The first hive from which I lifted the straw hackle disclosed an old worn-out zinc bucket, rammed into the bottom of the improvised dwelling-place into which the bees (a truant swarm of some one's) had been hived from an apple-tree in the garden. Experts are supposed to be ever ready for emergencies, but to push my driving irons through the sides of a metal bucket, in order to fix the straw skep ready for driving the bees up, was a bit beyond me and could not be entertained, consequently "close driving" was my only chance, and after spending about two hours I succeeded satisfactorily in securing the first lot of bees. No. 2—a swarm from the bucket above-mentioned, had been hived into an old dilapidated bushel measure with at least half a dozen entrances or exits round the bottom edge. To get a hive to fit the rim when turned up was even a greater difficulty than the bucket; but by placing a straw skep on the combs and covering the exposed combs with cloths packed around I managed to "persuade" the bulk of the bees to leave, then joined them to lot No. 1, and thus brought the united bees away for my trouble. I have them now in a frame-hive on drawn-out combs, and hope to winter successfully, although late in the season. No. 1 hive weighed 24 lb. and No. 2 44 lb.

This, I think, was a good object-lesson to both the owner and the neighbourhood, as I used neither veil or gloves, and not one of the onlookers or myself got stung. It greatly helps to overcome the timidity of would-be bee-keepers to see operations like this got

through without the bees using their stings, although I get nothing of any great value—practically speaking—for a good long day's work and a tramp of fourteen miles, there is a satisfaction which only bee-keepers can understand in undertaking jobs of this kind.—JAMES HIAM, *Astwood Bank, Worcestershire.*

THE BEE SEASON AT HARROGATE.

[4520.] I send you an account of my experiences this season.

The bees wintered moderately well, some stocks coming through the winter fairly strong. About the middle of April I began to suspect foul brood in my best and strongest hive, and my suspicions proved true, for unmistakable signs appeared. I commenced remedying this by burning any combs containing brood and using preventives. Three weeks later I examined again, only to find things worse, so I burned all the combs and internal fittings. I got the bees off the combs and into a skep, keeping them there three days. I then gave them a clean hive with five frames prepared as usual. This ended all chance of surplus from this hive, but the bees struggled bravely on. They have been to the moors this season without supers, and are now fairly strong, and I have seen no signs of disease in this hive since. I have, however, not done with it. I had three stocks working nicely in supers, but noticing one of them going backward, I examined and found foul brood. The combs in brood-nest were full of honey, brood, and bees from end to end. In due time I cleared the bees out, extracted the honey, and burnt all that was left. The bees were returned to the hive, and now, to my surprise, I find queen-cells in all stages. Whether they intended swarming or re-queening I know not, but in my experience of re-queening I have never known bees raise more than three cells, whereas this one had at least six. However, I gave them a temporary lodging for three days, and having a "Wells" hive next to the one I had operated on, I removed the queen (an aged one) from this, and joined the bees and queen to this lot. It was now nearly time to take the bees to the moors. They have not done much since, for there is no brood in the hive, though the honey gathered by both lots makes a full supply for winter.

The above drawbacks excepted, I have done fairly well; one of the hives filled the box of shallow-frames three times over. I have had no great "take" of honey, but that gathered is of excellent quality; in fact, it has never been so fine with me before.

I have been much interested with the letters from time to time on the late flowering lime trees. I noticed a peculiar one on the estate of Mr. Lane Fox, at Bramham Park (near Boston Spa). The lower branches of this immense tree bend down to the ground, then turn up again like young trees springing from the ground. The trunk is very large and fluted. There are many more splendid trees at this place.

I conclude this letter with a few lines on the heather season. One of my nine hives gained 16½ lb. while the bloom lasted; some, however, gained a good deal more than that, but a great portion was left unsealed; there will, however, be enough to pay expenses and a little to spare; while bees will go into winter quarters with plenty of stores. The hives, however, are not so strong in bees as I have had them. It would appear as if the queens had not bred so freely as usual on the moor this season. I have had them start breeding again at the heather the same as in spring, and some stocks have swarmed more than once. Bee-keepers here have also had sections spoiled this season by queen breeding drones in them. In one case we found queen-cells in a hive when brought home in the middle of September. I have taken my bees to the moor now for sixteen years without missing once, and have had many an interesting journey up to see them while honey-storing there, not seldom returning with 10 lb. or 12 lb. of early heather-honey as an advance sample. During the whole of the sixteen years' moor-going I only had two seasons of real failures; in fact, I look on the heather season with equal interest to the clover-honey season at home. With regard to marketing honey, I am in a fairly good position for disposing of the honey, but there is not a large demand, and I have therefore to make some effort, or should not sell much—I mean, it is not much sought after. Hoping to see other reports, particularly from our East Yorkshire bee enthusiasts, in our interesting little JOURNAL.—GEO. DUFFIELD.

(*Correspondence continued on page* 406.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The neat and well-kept apiary seen below, though only started in 1898, will, no doubt, ere long have assumed larger dimensions, judging by the progress made and the success which has attended Mr. Cooper's operations so far as a bee-keeper. It is at all times pleasant to hear of the good wife as well as the children being imbued with the same spirit regarding the bees as the head of the family, and we hope other men in the county of Herts—where once flourished a well-worked B.K.A., though now defunct—will follow Mr. Cooper's example in offering to form a new association if there is still sufficient bee-enthusiasm stirred up to warrant the attempt. With regard to our friend's bee-experiences, the following few lines speak for themselves. He says:—

"I first began bee-keeping in 1898 by purchasing a swarm, and in the following year bought two frame-hives, an extractor, section-racks, &c., from a man who was giving up the

hobby. My apiary is situated on the outskirts of the town, and the honey is principally gathered from the clover and limes. The result of my first year's experience was very encouraging, and was the means of determining me to extend my apiary along with my knowledge of bee keeping. I therefore sought the advice of Mr. Geo. J. Buller, who was for many years manager to Mr. T. B. Blow, of Welwyn. Mr. Buller, who is now living in Hitchin, was always ready to give me the benefit of his long experience. On his advice I purchased a copy of the 'Bee-keepers' Guide Book,' and have become a regular subscriber to the B.B. JOURNAL, which I eagerly look forward to each week. great help from my wife, who has been accustomed to bees all her life. Her parents have been bee-keepers of the old style for forty years in Cambs, and it was while on a visit there that I decided to become a bee-keeper myself. I now drive their stocks in August for them, and bring the driven bees home with me to increase the number of stocks in my apiary. My wife does all the extracting, bottling-off, &c., and looks after the cash we make out of the honey; nor does she forget to keep a plentiful supply of mead for the winter. The two children seen in the photo are my son and daughter. The boy (who promises well for becoming a good bee-man) claims the hive he is standing up against; he already

MR J. COOPER'S APIARY, BUNYAN ROAD, HITCHIN, HERTS.

I have found the weekly issues of great service to me, so full are they of practical information.

"I gradually extended my apiary, experimenting with the various makes and styles of hives, and have now decided to adopt the well-known 'W.B.C.' hive. I bought two of this pattern since the photo was taken, and have transferred the bees from the hive on the left into one of them.

"This season I have again done very well in securing surplus honey, and have nearly sold out all retail at 8d. and 9d. per 1-lb. jar. Although foul brood has been prevalent around Hitchin, I am thankful to say I have escaped so far.

"I also ought to mention that I receive begins to make himself very useful about the apiary, not being at all afraid of the bees, yet he has, so far, only had one sting.

"We have no Bee-keepers' Association in Herts, and I for one should only be too pleased to join one if started. In conclusion, I should like to suggest that the illustrations of 'Homes of the Honey Bee,' which have for some years past been published in the B.B. JOURNAL, be nicely reprinted on art paper and issued in book-form, bound in cloth, lettered on back, with perhaps on the side an attractive illustration relating to bee-keeping."

[The suggested issue of bee-garden pictures in book form has been contemplated from the beginning of the series of "Homes," and will, we trust, be eventually carried out.—EDS.]

CORRESPONDENCE.

(*Continued from page* 404.)

A NEW WINTERING DEVICE.

MACHINE-MADE BOTTLES.

[4521.] In order to devise a plan by which the cluster of bees can move over the frames in all directions at the centre of hive, instead of following that usually adopted, I two years ago designed the following apparatus :—The material required is a few yards of wire, fairly stiff, say, No. 10 S.W.G., and the tools, a strong pair of pliers. First cut a piece of wire about 2 ft. 6 in. long, and join the ends together; this may be bent round a pail or other coned circular surface to give it a good shape. Now cut another piece of wire about 18 in. long, and having bent it round the outside of a section (an easy fit) join the ends. We now have two shapes—*i.e.*, a circle of about 9½ in. diameter and a square of about 4½ in. Now take four pieces of wire about 6 in. each in length, and fasten one end at equal distances round the circle; stand the square in the centre and fasten the other ends to each corner of it; they must be fastened so that the wire is slightly longer than if the whole was level. The effect of this will be to raise the square about ½ in. above the circle. Now carry the ends down about ¼ in., and then bend sharply towards the centre, cutting them off about ½ in. long. Our device is now complete. To see how to use it, place it on a table and cover with a chaff cushion or quilt, and it will be seen that while they fit the table closely all round and so keep the heat in (that is if it was on a hive), yet there is a free space over the whole of centre of frames. If we are going to feed by means of candy, we can do so by running it when warm into a section, and, as our centre is made round one of these, it will be apparent that the candy in section will nicely fit our device; not only so, but the short ends of wire we bent in the centre will, while supporting the same, still leave a "bee space" over frames. I wonder if others have had the same experience with the new machine-made bottles that I have had? As out of the first gross I ordered, there were ten broken, and of the second gross twenty useless, I have come to the conclusion that they are bad packers, more especially as they weigh about 3 oz. more than the hand-made ones, and this when sending by parcel post is a consideration not to be lost sight of. —WILL HAMPTON, *Richmond.*

HONEY SEASON OF 1901.

[4522.] Many of your correspondents have written about "the excellent honey season of this year." It may have been such in some southern parts of the country, but hereabouts it has been the poorest that I remember. One generally reckons here upon three months of good honey collecting—viz., from May 15 to August 15. Of these the first was entirely lost through cold and wet, and the last through drought, which did not allow even white clover to flower a second time; so that my yield has only been five-sixths of that of last year, though my hives were in better condition to start with. On the other hand, the honey has been exceedingly good, and showed no darkening from honey-dew, which might have been expected in such a season. Wax moth has been a perpetual trouble, and there have been few weeks in which I have not hunted it more or less. Very few sections have been well filled, though they were placed early upon my strongest stocks. I got as many swarms as I wanted from the low-lying fens, about the end of May and beginning of June; but my own hives (I am 164 ft. above the sea) did not betray any wish to swarm till July 15, when several talked about it. The fruit crop has been most disastrous, scarcely any apple trees deigned to flower at all, resting, I suppose, after their tremendous exploits of last year. Pears showed about half a crop, but these were attacked by wasps weeks before they were fit to be gathered, while all the plum buds, except on netted trees, were destroyed by birds before they could open. Wasps have been horribly abundant. It is a great pleasure to observe the pluck with which a single bee will go at a wasp and chase him away, though far her superior in weight, and to see a wasp, which has succeeded in dodging the sentries at the narrow entrance, make his exit a deal quicker than he came. One morning last week my gardener greeted me with, "The wasps are wholly robbing No. 2," and I found this was the case, and also that most of the combs were "wholly" in possession of the "wriggling worms" you wot of. (We had, as we thought, thoroughly cleaned both hive and combs only a fortnight before.) We removed most of the combs and changed the floor, and having observed her majesty on the discarded floor, replaced her in her diminished palace of two or three frames only. She disdained such narrow quarters, and was shortly afterwards seen walking across the bare earth in front, while her subjects came out and swarmed in a fruit tree opposite. She was replaced and they all—a terribly diminished court—returned to the hive; but two or three hours later came out again and settled on an apple tree farther off. My lad tells me he saw them apply for admission to No. 23, which was refused, and they had returned to their apple tree when I saw them about 5 p.m.—the most miserable little swarm I ever saw—barely a handful of bees, not worth any further attention. The next morning they were gone, having probably got taken in in some "workhouse," where possibly their queen may be now reigning in place of a slain rival. I have just begun a "frame to frame" visitation throughout my apiary, changing and thoroughly cleaning every floor-board. In the

first hive I examined to-day some comb-building was still going on near the entrance; and there is brood in the frames, but not much.—C. C. JAMES, *Wortham Rectory, Diss, October* 2.

BEE-KEEPING IN CAPE COLONY.

[4523.] Having been much struck by the style of hive used in this part of Cape Colony, I thought it might interest readers to have a brief description of two shapes of hive, viz., the "Box" and "Tub." Both of these are built in with either stonework or brickwork, and have similar entrances, while some have flat roofs and others slanting ones. The tub or box hives are 18 in. broad (high box) and about 24 in. from back to front, are built in a block of stones or bricks raised 3 ft. off ground and completely surrounded with them and plastered with mud to keep them dry; the front of the hive has a door with hinges, which latter contains about nine holes. I saw five in a row at three yards' interval at Garstland Kloofe, Craddock District, Cape Colony, South Africa. I have noticed the same in Richmond, Hanover, Murray-Burgh — Graffe Reinette districts. In the majority of cases the hives are empty with traces of comb. I was going to try and sample the honey, but we had to move away after the rebels, who had just vacated the place. The bees I have noticed are much smaller and more yellow than the ordinary—the trooper in charge took them for wasps.

The peach and apricot blossom have been in flower for a fortnight; pear blossom in some cases is out. I am afraid I have lost a good season through being away, but my bees will, no doubt, have made the best of it, as they were left in good hands. With best wishes.—C. B. ELMHIRST (Expert), *11th Company Imperial Yeomanry, Cape Colony, South Africa, September* 5.

Queries and Replies.

[2735.] *Loss of Weight of Stock in Skep.*—I purchased a stock of bees in a skep. They arrived July 16, and then weighed 20 lb.; but now, with the addition of a floor-board, they only weigh 15 lb. I therefore ask:—1. Is it a bad sign for the hive to lose weight like this? 2. How shall I feed the bees, as the skep has no feed-hole and is very old; the combs also are old?—L. ILLINGWORTH, *Acton, W.*

REPLY.—1. The skep was bought at the close of the honey harvest, for since July 16 probably no honey has been gathered; consequently, the bees have for nearly three months been living on the stores previously gathered. The diminution of weight is therefore perfectly normal and natural. 2. Cut a circular feed-hole in top of skep sufficiently large for inserting the neck of a glass jar holding about 2 lb. of syrup-food. This should be filled and set on at once, wrapping the junction of feeder and skep with newspaper to keep bees from getting at the food from the outside. The syrup must be given warm. About 6 lb. or 7 lb. of liquid added to what is already in store makes up the desired quantity, after which a cake of soft candy, pressed into the feed-hole and covered well with paper, to keep the bees snug and warm, will render the stock safe for winter. If details of how to feed bees up for winter are needed you should procure a copy of the "Guide Book." Without such or similar book a beginner cannot make much headway.

[2736.] *Loss of Stocks in Winter.*—I send a sample of syrup made for autumn feeding. It was, I think, made according to directions in Cowan's "Guide Book." The syrup will not be used this year. 1. Kindly let me know if it is suitable for the bees. Some time ago an experienced bee-keeper told me to "dissolve naphthol beta in spirits of wine." I have recently bought the "Guide Book," but do not see that it mentions *spirits of wine*. 2. I am sending some comb for your opinion as to whether it is affected with foul brood or not. The comb has only been in use for a few months, the bees having died of famine. 3. Could the combs be used again, or would you advise me to melt them down, and would the wax be worth sending away to be made into foundation? 4. I do not know of any one so unfortunate as myself. I lost three stocks last winter, which, I thought, had sufficient stores, for I took none from them. It was very disappointing to me, a beginner—it was all expense and no profit. Am I to blame? Now one lot has foul brood—at least, I destroyed them lately. I have always been careful, I think, to keep on renewing naphthaline, and I scrub the floor-boards with "Izal" solution, and now, as I have empty hives on hand, I shall be able to give them clean hives also. I pack the bees with an abundance of covers and paper. I keep none in skeps. It is very discouraging indeed to lose the bees after all my trouble. It is only recently. I am quite inexperienced, therefore a word of advice would greatly oblige.—BETA, *Abergavenny, October* 2.

REPLY.—1. Syrup would be all right if boiled a little longer; it is too thin. 2. There is no trace of brood at all in comb. You will find full instructions for treating foul brood in "Guide Book." 3. Comb, being free from disease, is quite fit for use. 4. It appears as if the loss of stocks was due to want of knowledge as to food in store. The mishap was so easy to avoid that you were certainly to blame in allowing the bees to starve.

[2737.] *Enemies of the Honey-Bee.*—Are dragon-flies classed among the enemies of the honey-bee? Just lately I have seen several flying in front of my hives when the bees are out strongest, but their movements are so

quick it is almost impossible to see if they carry bees off to devour them. A bee-keeping friend tells me that he saw a dragon-fly among his bees, and that it was flying away with one, when he captured it. I would therefore like to know if any one else has noticed them doing this or any other kind of mischief among their bees.—S. H. TOLLINGTON.

REPLY.—Personally we believe that the dragon-fly never does any harm to bees. Our apiary, when we lived in the north, contained over forty hives, and dragon-flies were numerous in the district, but we always regarded them as perfectly harmless in the apiary.

[2738.] *Disputed Ownership of Bees.*—Will you please answer me the following:—A man (whom we will call A) quits his abode and leaves a hive of bees, which he gives to another man (B). The hive is located in a difficult place to get at, but B has permission to do what he likes with them. B sells the bees and hive to me for five shillings, and in due course we moved them away to another place, where they remained for a year and eight months. Then the original owner takes it into his head to present the bees to another man, and authorises the latter to fetch them away, and he has done so. Will you kindly tell me how to move in the matter?—A. WALKER, *Aylesbury.*

REPLY.—If the facts are as stated, we should say the man who took the bees away had about as much right to do so as he would have to take your coat away or any other article belonging to you. Our wonder is that you allowed the bees to be carried off as stated, but your remedy lies in the county court whither you should summon him.

[2739.] *Moving Bees.*—I wish to move my four hives of bees to a more sheltered part of garden, some twenty yards away. As it is not practicable to move them a few feet each working day, as directed in "Guide Book," I should like to know what would be the best time of the year to move them without losing any bees, now in the autumn or next spring, after they have wintered?—F. H., *Warrington, October 3.*

REPLY.—The hives may be moved without fear of loss in bees by choosing a time for removal when the bees have been confined to their hives for four or five weeks through frost or adverse weather.

[2740.] *Re-queening Hives.* — Will you kindly answer me the following question in BEE JOURNAL:—I killed the queen-bee in one of my hives a month ago and at the same time ordered a young queen. I hoped to get the new queen soon, but did not receive it until thirteen days later. I examined the hive to see if the bees had started to raise a young queen, but could see no sign of queen-cells. I caged the queen for two days and then released her. There seemed to be no desire on the part of the bees to hurt her at all. At the same time I started feeding the stock, and a few days afterwards examined the hive again and found a very small queen, not the one I introduced as far as I can tell, because the one I introduced was much larger. I could not see any eggs or brood in the cells; consequently, I looked over the combs again but not an egg could I find; therefore, the best course was to purchase another young queen. I enclose you the small queen referred to above and should be glad if you can say if she is a virgin? Also if you think they must have killed the queen I introduced? Any information you can give me from the above I should feel greatly obliged.—CONSTANT READER, *Kidderminster.*

REPLY.—The dead queen received is a virgin and consequently worthless. It is always safest in such cases as yours to secure a tested queen, the risks of mating safely and of abortive queen-cells, &c., making queen-raising risky in the hands of beginners.

[2741.] *Moving Bees.*—I am compelled to remove my two hives of bees about 200 yards across a road any time between now and the spring, and should like your advice as to the best time to do so. I always winter the stocks over ekes, which will make removing them somewhat risky, unless I screwed the body-box to the eke. Would you advise removing before I pack up for winter? If I placed skeps on the old stands and collected the bees that went back, could I unite them with their respective stocks by merely shaking them out before the hives?—W. H. T., *Brecken-le-Dale, Birkdale, Lancs.*

REPLY.—When packing bees for winter screw body-boxes to ekes as proposed, and so soon as bees have stopped flying for a fortnight or three weeks, temporarily close entrances and remove hives to new location and open entrances at once. We do not approve your last suggested method. Please note rule as to name.—EDS.

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Revue Internationale — Gleanings in Bee Culture.—There has been much done in breeding bees in brighter colours, in suppressing swarming and increasing the production of honey. Why, then, cannot bees be raised with the tongue long enough to work the red clover. Michigan experimental station possesses a colony of Italian bees with tongues a third longer than that of the black bee and a fifth longer than ordinary Italian bees. This result is very encouraging, but could not at the same time some energy be applied towards shortening the tube of the red clover, seeking the plants most frequented by the bees, collecting their seeds, sowing, and fertilising?

Would not thus in a few years time a plant be produced that the honey bee could work?

L'Apiculture (France). — The French Government has just brought into being a tax of 50 centimes in every 100 francs value on every garden or unbuilt upon land in Paris. This has given rise to wild indignation in the daily papers which predict that the gardens will everywhere disappear to make room for buildings, and were this to take place the bees of the few colonies which exist in Paris would have their haunts greatly diminished and thus a tax made for the benefit of sellers and drinkers of wine would sadly react upon the bees.

Revue Internationale d'Apiculture (Switzerland).—It was thought that honey had reached the lowest possible price, but it seems to be still retrograding. "L'Apiculture" speaks of 95 francs for 100 kilos (200 lb.) of the finest honey. This price is so low as almost to preclude the possibility of successful apiculture in La Beauce, where, owing to the conditions of things, the bee-keepers have to buy fresh hives each year at an average price of 15 francs. It being impossible to preserve the bees, or at most a very rare occurrence. Is the low price of honey to ruin one of the richest honey districts in Europe, where bees have been kept and the finest honey produced for more than a hundred years?

It has been said that the prices of honey will come down to those of the United States, but even then industrious bee-keepers can make it answer. Nowhere is the honey industry greater than there, where honey sells at about 3d. a lb.

Independently of the common bee, there are several other varieties more or less valuable. The Italian bee is distinguished from the common bee by two yellow rings, and the hairs which form a slight down are yellowish, especially when young; she is somewhat larger than the black bee, her scent is more delicate, and her buzz is gentler. These bees defend their hives better than the others, and never permit a strange bee to enter. They are gentle and easy to handle, and generally winter successfully. They raise more brood than the ordinary black bee, but for that reason they consume much more food in the early spring. This race crossed with other varieties is not so gentle as the pure Italian, but these workers are very active and robust.

Then there is the Cypriot bee, somewhat more yellow than the Italian, the queens smaller, but very prolific. They are very industrious, but not good tempered, and they slaughter bees of other races unmercifully and rapidly. The Syrian is also a yellow variety, with stripes of the same colour and ashen-grey down. A little smaller than the Italian bee, but vigorous and excellent workers. They winter very well, still there are days when they will not work, and what is worse, they are great robbers.

Cypriot and Syrian bees raise a great number of queens at swarming time, sometimes thirty or forty young queens in one hive.

The Carniolian, from Austria, is a larger bee of an ashy-white colour, very gentle, and little susceptible to cold; they do well in cool countries, but in France they swarm too freely, and are better when crossed with the Italian.

The Palestine bee greatly resembles the Syrian, is perhaps yellower, and of small size. The queens are very small; the workers are wonderfully active in summer, but ill-tempered and thieving. They winter but badly in our climates, as it is never very cold in their native haunts.

Of all bees the Algerian race of Kabylean bees are the most detestable. They are as black as coal, so much as to be ugly, and if any one touches their hives, even with plenty of smoke and with veil and gloves, they are sure to be stung. They not only attack the operator, but also any one who may happen to be in the neighbourhood. They are robbers in the highest degree, and, like the Palestinian bees, they winter very ill.

The grey Caucasian bee is difficult to procure, and very expensive, so it has not been very closely examined.

The Corsican bee is yellow, like the Italian, others grey, like our own, but paler in colour; they are not so gentle as the Italians. Like all queen bees from warm latitudes, these bees begin to lay too early in the year.

WEATHER REPORT.

WESTBOURNE, SUSSEX,
SEPTEMBER, 1901.

Rainfall, 2·51 in.	Sunless Days, 0.
Heaviest fall, ·77 in., on 16th.	Below average, 19·4 hours.
Rain fell on 11 days.	Mean Maximum, 64·6°.
Above average, ·16 in.	Mean Minimum, 50·6°.
Maximum Temperature, 70°, on 29th.	Mean Temperature, 57·6°.
Minimum Temperature, 40°, on 16th.	Above average, 2·8°.
Minimum on Grass, 31°, on 16th.	Maximum Barometer, 30·45°, on 28th.
Frosty Nights, 0.	Minimum Barometer, 29·48°, on 17th.
Sunshine, 162·1 hrs.	
Brightest Day, 4th, 12 hours.	

L. B. BIRKETT.

PRESS CUTTINGS: INTERESTING AND "OTHERWISE."

REMARKABLE FIND OF HONEY.

A remarkable discovery was made at Burnham, Somerset, on Friday, about mid-day, of a large quantity of honey in the comb, estimated at about 2 cwt., between the joists of a house known as Rose Farm, in the occupa-

tion of Mr. J. Duddridge. The occupants of the room could not understand the presence of so many bees, and the consequence was that one of the boards in the floor was raised. Out flew thousands of bees. Mr. J. Day, of Berrow, near Burnham, who was present at the time, took the usual precautions to get rid of the bees, and when the insects were driven out it was discovered that there was about 2 cwt. of honeycomb, tightly packed in between the joists. The house was done up about four or five years ago, and it is thought that the honey has been collecting for the past four years, the bees entering the house through cracks in the wall.—*Bristol Mercury.*

ARREST OF A SWARM OF BEES.

The officer in charge of Windsor Borough Police-station yesterday took several thousand prisoners who had created a disturbance in the front garden. The intruders were a swarm of bees, and they settled in the constabulary grounds. The officer in charge promptly decided that it was his duty to make an arrest, so he took a couple of tins and banged them together while some one went for a bee-keeper to assist the police. Charmed by the tin-banging, the bees waited until the bee-keeper arrived, and then they offered no resistance to being taken into custody. They were safely hived, and proved to be a valuable swarm.

Echoes from the Hives.

St. Asaph, N. Wales.—The honey season in this district has been most satisfactory, honey plentiful and of good quality. We started with fourteen hives in spring, and have taken on an average 121·75 lb. per hive, our total being 1,705 lb., all clover honey. Our best hive gave 215 lb., our second one 142 lb., while nine others gave over the hundred.—G. W.

Bee Shows to Come.

October 8 to 11, at the Agricultural Hall, London.—Show of Honey and Bee-produce in connection with the British Dairy Farmers' Association. Numerous and liberal prizes for honey, &c.—Schedules from Mr. Wm. C. Young, Secretary, 12, Hanover-square, London, W. **Entries closed.**

October 10, 11, and 12, at Crystal Palace.—Kent and Sussex B.K.A. Annual Exhibition of Bees, Honey, and Appliances. Increased prizes and medals. Schedules from Hon. Secretary, Henry W. Brice, 100, Brigstock-road, Thornton Heath. **Entries closed.**

October 23 to 30, at Olympia, Northumberland-road, Newcastle-on-Tyne.—Show of Honey in connection with the Newcastle-on-Tyne Grocers, Bakers, and Confectioners' Exhibition. Six open classes, and four confined to Northumberland, Cumberland, and Durham. Medals and cash prizes. Schedules from Jas. Waddell, Wooler, Northumberland. **Entries close October 21.**

October 24 and 25, at Kilmarnock.—Honey Show in connection with the Ayrshire Agricultural Association. Eleven classes for honey, with liberal money prizes. Schedules from John Howie, Secretary, 58, Alloway-street, Ayr. **Entries close October 11.**

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for honey. Schedules from J. Palmer, Hon. Secretary, 17, Brand-lane, Ludlow. **Entries close November 5.**

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MARK (Anerley).—The British Bee-keepers' Association have two sets of lantern slides which they hire to bee-keepers for lecturing purposes. Particulars can be obtained from the Secretary, Mr. E. H. Young, 12, Hanover-square, London, W.

J. TURNER (Bramall).—*Queen Thrown out.*—Queen sent has been mated. The fact that the bees are now casting out the drones is certainly a sign that they have no further use for them. We should think they have a mated queen.

R. FRENCH (Leamington).—*Drone-Brood.*—We cannot say for certain whether queen was mated or not, she not having come to hand. From what you say, however, we anticipate she was mated, as it not infrequently happens that queens will lay a few drone-eggs before settling down to their maternal duties.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

C. A. (Nantwich).—Very bad case of disease.

NOVICE (Devon).—One of the worst specimens we have seen. Very foul indeed.

W. R. C. (Keighley).—Comb is diseased. Not a bad case, but decided "F.B."

PETER GRANT (Roslin, N.B.).—There is no trace of any brood at all in comb. The few half-filled cells contain only pollen.

Honey Sample.

G. SPEARMAN (Colesbourne).—Sample of honey sent is pure honey, as is evidenced by it having partly granulated. It is a nice colour, but has a flavour and aroma quite its own.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 10th inst., in the Board Room of the R.S.P.C.A., Jermyn-street, W. The business of the meeting was purely formal, and on its conclusion a short adjournment was made for light refreshments, after which the meeting was transformed into the usual October

CONVERSAZIONE,

over which Mr. T. I. Weston presided, the following members and friends being present: The Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, General Sir Stanley Edwards, Major Fair, Miss Gayton, Miss E. Black, Messrs. S. Atkin, G. Durrant, H. Dilworth, H. Edwards, J. Garratt, R. Hamlyn-Harris, J. Howland, Geo. Hayes, Henry Jonas, W. P. Meadows, J. H. New, A. G. Pugh, Walter F. Reid, Allen Sharp, J. Willard, J. Waterfield, E. Walker, Edwin H. Young, and others.

The proceedings opened with the exhibition of a travelling crate for removing frames from an apiary to the extracting house. The contrivance was passed round the room for examination, and rather unfavourably criticised, Mr. Meadows venturing the opinion that the inventor was not a practical bee-keeper, and that his production would find no acceptance among apiculturists. The chairman thought that the box was intended for the transport of sections as well as, in lieu of that, the conveyance of swarms, and, consequently, like many other inventions designed to carry out two different objects, did the work of each rather badly.

Mr. Reid, having been asked to make inquiries regarding the possibility of arranging a scheme of insurance for bee-keepers against damage caused by bees, reported progress. He said that the idea originated out of a rather hard case in which a bee-keeper had to pay a considerable sum in compensation to an owner of horses. A subscription was got up among sympathisers in order to partially recoup this gentleman in his loss, but it was not liberally responded to. He (Mr. Reid) had been in communication with two insurance firms on the subject. One, which promised to consider it and quote terms, had failed to do so. The other had written to the effect that they would entertain the project except as against bee-keeping employees, who were probably covered by the Employers' Liability Act, and the sum asked was 1d. per hive—a very moderate charge that ought to be acceptable to all. The only statistics that could be placed before the agents were the names of subscribers given in the reports of associations, but these did not form a reliable basis. However, he had computed the number of members at 3,000, and gave that to the agents as a foundation upon which they could make their calculations. Of course, besides that, it was reasonable to assume that many bee-keepers who were not members of associations would be glad to avail themselves of this offer; and if so, that fact would be an incentive to them to join associations. A further condition was that 70 per cent. of the total number of hives must insure. It was obviously out of the question to suppose that penny policies could be issued by an insurance company; and therefore he submitted that the B.B.K.A. should take out one policy for all the county associations which were affiliated. The branches could pay in bulk for all their members to the British, which would negotiate with the company for one policy, covering every member who had subscribed one penny per hive.

Mr. Jonas thought the insurance fee of 1d. per hive ridiculously small, and one that nobody could possibly object to, while the method of collecting the money and effecting the insurance through the B.B.K.A. seemed a perfectly simple and satisfactory arrangement. He doubted not that County Associations would readily give their adhesion to the proposal, and insure all their members. He also believed that when the scheme was adopted and made known in the provinces it would have the effect of causing "outside bee-keepers" to join county associations. The work would devolve on each county secretary to collect the subscriptions, and hand up to the B.B.K.A. the amount for the number of hives owned by the members in his own district.

A question was asked as to when the hives should be counted, whether at the beginning or end of the season; to which Mr. Reid replied that the right time would be when they were alive and in full working order in the spring; then "experts" could collect the fees and thus save the trouble of writing and expense of postage. In Germany there was a small insurance scheme, by which only a pfennig (tenth of a penny) per hive was charged.

Mr. Hamlyn-Harris knew that in Belgium the subscription fee was arranged to include insurance of each hive.

General Sir Stanley Edwards asked how the lower classes would be affected by the scheme, those who only subscribed 2s. 6d. to the county associations. Would they be able to pay a premium on each hive in addition?

Mr. Reid replied that fortunately a great number of subscribers paid the increased contribution, which rendered it possible for cottagers to be accepted at 2s. 6d., a sum that was really not sufficient to pay out-of-pocket expenses in regard to them. Any cottager out of his bees alone ought to be able to afford 5s. per annum; but putting it at the worst, those who really could not pay would be no worse off than now, while the great majority would be benefited.

Mr. E. H. Young (Sec. B.B.K.A.) thought that the counting should be done in June or July.

Mr. Garratt asked, was there any need for an outside body to take up this insurance scheme? Could not the B.B.K.A. do it themselves? Taking 3,000 known bee-keepers as the basis, and assuming that they average four or five hives each, the sum would be between £40 and £50, which money could be held in trust by the B.B.K.A. to meet any claims that might arise. The treasurer could hold the funds as well as any one else. There would be very few claims.

The Secretary pointed out that there had, he believed, been two claims made in one season, and if there were to be a repetition of that the B.B.K.A., so far as insurance was concerned, would be bankrupt at once. Directly insurance became a reality claims would have a tendency to increase.

Mr. Meadows suggested that the County Associations might be asked to pay an increased affiliation fee, which would cover the cost of insuring their members. This would avoid augmenting the work of branch secretaries, which was already heavy enough. This scheme could be made to work very well up to ten hives per member, exceeding which a small extra amount might be charged for insurance.

Mr. Geo. Hayes feared County Associations would find a difficulty in increasing their members' subscriptions to meet the cost of insurance. As a county secretary he could bear witness to the trouble there was in securing the 2s. 6d. subscription, which would be multiplied if another advance of 1s. were required.

The Secretary remarked that there was considerable variation in the number of stocks owned by members, and it would be hardly fair that one bee-keeper with two hives should have to pay the same amount as another with twenty.

Mr. Reid said that another condition of the insurance at one penny per hive was that at least 60 to 70 per cent. of the total number of hives must be insured. That meant that about 2,500 must take advantage of the offer.

The Chairman thought the Committee would want to know the minimum amount for which the company would undertake to carry out the scheme. No doubt the payments would have to be collected by the experts on the occasion of their visits—in the autumn by preference. He thought the matter could not be arranged by the counties paying an extra affiliation fee, because the liabilities of each county differed; for instance, Essex would be represented by about £6 5s., while the aggregate for some other counties would be much less. Besides, how could any equality be maintained by that system when one member might have two, while another possessed forty or fifty hives.

Mr. Reid said that the company would not accept a subscription as representing a general number of hives; each hive must be insured and capable of identification. Thus it would not be feasible for a county association to pay down a lump sum.

Mr. Allen Sharp asked if he had ten hives and insured only one, what check there would be against his ascribing damage done to the insured hive, whilst the real depredators might have belonged to other stocks? to which Mr. Reid replied that all or none must be insured.

Mr. Jonas thought an easy way of arranging the matter would be to limit the number of hives to two for a 2s. 6d. subscription. five for 5s., and ten to twenty for 10s. 6d. He was afraid he could not agree with Mr. Garratt that the B.B.K.A. should take the risk. A point that occurred to him was, how would the B.B.K.A. be able to ascertain the number of hives belonging to its members, having no expert to find out?

Mr. Reid replied that that duty would devolve on the secretary, as in the case of any branch if it were not sufficiently organised to employ an expert. The insurance would be renewable every year, so that if found remunerative the B.B.K.A. could then take it over, should they wish to do so. However, the whole subject would come before the Council of the parent body for consideration and decision.

(*Conclusion of Report next week.*)

THE DAIRY SHOW.

The twenty-sixth annual show of the Dairy Farmers' Association opened at the Agricultural Hall, London, on Tuesday, the 8th inst., and continued till the 11th.

Our unexpected absence from town prevented us from visiting the Hall during the week; we are therefore unable to give a personal account of the show or a notice of the exhibits. We are, however, promised some particulars from a reliable quarter, which will enable us to make a report next week. Meanwhile we append the prize list.

The judges were Mr. Walter F. Reid and Mr. C. N. White, who made the following awards:—

Twelve 1-lb. Jars Light-coloured Extracted Honey (43 entries).—1st, John Smart, Andover, Hants; 2nd, Rev. Edwd. R. Iremonger, Clatford Vicarage, near Andover; 3rd, Wm. Woodley, Beedon, Newbury; 4th, A. M. Woodley, World's End, Newbury; v.h.c., S. Temblett, Andover, Hants, and Rev. R. M. Lamb, Burton Pidsea Rectory, Hull; h.c., F. R. Ford, Burwell, Cambs, and H. W. Seymour, Henley-on-Thames.

Twelve 1-lb. Jars Medium-coloured Extracted Honey other than Heather (20 entries).—1st, E. C. R. White, Newton Toney, Salisbury; 2nd, G. W. Kirby, Longwell Green, Bristol; 3rd, H. W. Seymour; 4th, Rev. W. H. Edwards, Pangbourne, Berks; c., D. H. M. Turner, Romanhurst, Witney.

Twelve 1-lb. Jars Dark-coloured Extracted Honey other than Heather (7 entries).—1st, G. W. Kirby ; 2nd, H. W. Seymour ; c., E. C. R. White (3rd and 4th not awarded).

Twelve 1-lb. Jars Extracted Heather Honey (8 entries).—1st, Thos. Richards, Church Gresley, Burton-on-Trent ; 2nd, Wm. Sproston, Shugborough, Staffs ; c., J. H. Horn, Bedale, Yorks (3rd not awarded).

Twelve 1-lb. Jars Granulated Honey (6 entries).—1st, H. W. Seymour ; 2nd, Richard Brown, Somersham, Hunts ; c., Rev. H. F. Goffe, Caistor, Lincs (3rd not awarded).

Six 2-lb. Sections (5 entries).—1st, Richard Brown ; h.c., Edward Bontoft, Caterham Valley, Surrey (2nd and 3rd not awarded).

Twelve 1-lb. Sections (20 entries).—1st (and B.B.K.A. certificate), A. M. Woodley ; 2nd, Wm. Woodley ; 3rd, Anthony Bayley, Wordsley, Stourbridge ; h.c., H.W. Seymour ; c., Rev. E. R. Iremonger.

Twelve 1-lb. Sections, other than 4¼ in. by 4¼ in. (7 entries).—1st, Rev. R. M. Lamb ; 2nd, John Carver, Wellington, Salop ; h.c., Mrs. B. M. Kirk, Stillington, Yorks.

Twelve 1-lb. Sections Heather Honey (7 entries).—1st, R. W. Patten, Rock, Alnwick ; 2nd, H. Waddington, Borobridge, Yorks ; h.c., J. M. Balmbra, Alnwick ; c., R. T. Tennant, Thirsk, Yorks.

Display of Comb and Extracted Honey (5 entries).—1st (and B.B.K.A. Bronze Medal), Wm. Woodley ; h.c., A. M. Woodley ; c., Richard Brown (2nd and 3rd not awarded).

Beeswax (not less than 3 lb.) (13 entries).—1st, H. W. Seymour ; 2nd, John Berry, Llanrwst, N. Wales ; v.h.c., E. C. R. White ; h.c., E. E. Scholefield, Chudleigh, Devon.

Beeswax (not less than 3 lb.) in Marketable Cakes suitable for the Retail Trade (12 entries).—1st, Geo. Walker, Wendover, Bucks ; 2nd, John Berry ; h.c., E. C. R. White ; c., H. W. Seymour (3rd prize not awarded).

Interesting and Instructive Exhibit of a Practical Nature.—1st (and Silver Medal B.B.K.A.), H. Edwards, Sunningdale, Berks ; h.c., E. H. Taylor, Welwyn, Herts.

KENT AND SUSSEX BEE-KEEPERS' ASSOCIATION.

SHOW AT THE CRYSTAL PALACE.

It was a matter of great satisfaction to the Council of the above Association that they had the good fortune to hold their annual exhibition at the Crystal Palace on the 10th to 12th inst., in connection with the fruit show of the Royal Horticultural Society. The support rendered the Show Committee by the associated members of the twin counties and others, produced the largest and finest exhibition ever held by the Association, whilst the quality of the exhibits staged was of a very high character indeed. The Palace and grounds during the days of the show became a popular rendezvous for bee-keepers from all parts of the kingdom. Several entirely new features were included in the exhibits, among them the stand of the County Cider Company from Swanley, which, under their able manager, Mr. Millar, served to considerably enhance the attractiveness of the general display. Indeed, it may be truly said the whole central nave of the Palace was one great object-lesson on the wonders and beauty of Nature in the production of food for mankind, commencing first with flowers, then the bees and honey and wax, then the fruit, and lastly the cider. As was remarked, a happier combination was impossible. No show has in the experience of the writer produced so large an amount of interest, the stands being crowded during the whole time the exhibition was open.

The weather also was exceedingly fine and warm, permitting lectures and demonstrations with live bees twice daily to be given to large audiences, and the efforts here of the County Expert (Mr. W. Herrod) were much appreciated, while the clever and concise way in which the lecturer practically placed bee-keeping in a nutshell at each lecture was admitted by all hearers.

The full list of awards will be forwarded for publication in next issue.—(*Communicated.*)

TESTIMONIAL TO MR. HOOKER.

The committee deem it unadvisable to state the amount of each subscription, but the ultimate sum received will be announced in the BEE JOURNAL at the closing of the list, and each contributor will be provided with a copy of the complete subscription list.

The committee will be glad to have the co-operation of hon. secretaries of county associations, and trust that no county will allow its name to be absent from the list.

Subscriptions to be sent to the Editors, BRITISH BEE JOURNAL, 17, King William-street, Strand, W.C., or to Jesse Garratt, hon. secretary and treasurer, Meopham, Kent.

The following have given their support to the proposed testimonial :—

The Hon. and Rev. H. Bligh.
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Henry Jonas.
E. D. Till.
F. B. White (Vice-Chairman B.B.K.A.).
H. W. Harris.
John H. Howard.
H. G. Morris.
W. Broughton Carr.
Jesse Garratt.
R. French.
John Walton.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of September, 1901, was £1,539. — *From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*"

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

THE DAIRY SHOW, 1901.

PRIZE-WINNING IN DUPLICATE.

[4524.] The Dairy Show has come and gone once more, and while it is still fresh in our memories I should like to say a few words regarding the same. For excellence of quality in the produce staged it was, in my opinion, far ahead of previous shows, and I was very pleased to see all arrangements carried out by Mr. W. Herrod in such a thoroughly efficient manner. The thanks of exhibitors are due to him for the care in which the exhibits were staged in the best possible way for effect.

I may now be allowed to say a word or two with regard to the trophy class and other classes at the "Dairy," so far as giving my personal opinion merely for what it is worth, on the practice now coming into vogue of making more than a single entry in one class. I feel sure that these double entries, if not given up, will "kill" the trophy class. I know perfectly well an exhibitor can, according to the rules of the Dairy Show, make three or more entries in a class, and win all the prizes in that class if his exhibits are of sufficient merit. But when a man makes an entry in the "trophy class," and goes to the show with the intention of doing his best, and there finds a noted prize-winner modestly staging one exhibit for himself and another for his wife, it is a bit hard on smaller bee-keepers like myself. I think a man should be content to win the first prize, and all the honours attached to it, and having done so, leave a little chance for the smaller fry. For myself, it is only necessary to say that I refused to stage the trophy which I had entered, and I shall not think of again entering a trophy at the "Dairy," or any other large show, while this kind of thing goes on. It seems a pity that the trophy classes should be allowed to fall through owing to one individual being more grasping than his brother bee-keepers in the craft. I notice Mr. Loveday said a few words in B.B.J. of last week regarding the same kind of business at the "Grocers'" Exhibition. I hope it is not too late for the schedules of the next year's exhibitions to be made more stringent, so that there will be no chance whatever for any man to exhibit in his own, his wife's, or his son's name. Let these "deck-sweepers" make one entry only, and I would suggest that all first prize winners be debarred from showing in the same classes for one year.

I shall be glad to hear the views of other exhibitors on this subject, as I think it is to the interest of us all that the question should be thrashed out in a straightforward manner in the pages of our JOURNAL.—H. W. SEYMOUR, *Henley-on-Thames, October* 14.

BEE-FLOWERS—JUDGING AT SHOWS.

[4525.] Mr. Loveday's paragraph in the B.B.J. of October 3 (page 394) was characteristic of his writings, in being very practical. It certainly seems quite possible for anybody possessing a garden to grow a few flowers for the bees, although it would be entirely useless to attempt the cultivation of sufficient bee-forage to appreciably affect the amount of surplus gathered by the grower's own bees. I have noted that *Echinops ruthenicus* is a flower that always engages the attention of bees and butterflies when in bloom. This neighbourhood is trying to compete with Holland in producing "Dutch bulbs," the latest venture being the propagation of hyacinths. During the time the latter are in flower the wonderful colours of the balls of pollen carried by the bees are very interesting to watch. One class of plants omitted by our friend is the Michaelmas daisies. There are many varieties blooming from early August till late in November, and whenever the bees can fly the flowers are crowded with them. The plants are also very ornamental, and produce flowers which appear to defy autumnal weather.

The discussion on width of lace-edging for sections, &c., at shows, which have caused good sections to be disqualified, will, no doubt, be useful to future exhibitors. As an horticultural judge, I may say that nothing is more distasteful than to disqualify an exhibit, and yet justice to all demands a rigid observance of rules. If I am allowed to carry off a prize with an exhibit showing $\frac{1}{16}$ in. too much lace edging, why should the judges disqualify my neighbour who still further infringes the rule by another $\frac{1}{16}$ in.? I well remember having

to disqualify the best lot of plums I saw staged during the whole of that season because eleven fruits were staged where there should have been twelve. No, I say let our judges adhere strictly to the schedules as they have done. Exhibitors may grumble; but if this is done they will know what to expect, and at future competitions it will be quite certain there is no reason for disqualification. While speaking of judges, it seems most peculiar to notice how judges of honey at village horticultural shows are selected. I was recently talking to one who had judged the exhibits, and he actually objected to some sections I was selling because they were too white! The same remark was also passed with regard to the extracted honey being too light coloured. After a short chat, it became evident that this judge knew nothing whatever of honey or bees.

A friend wrote me on September 27 to say that at Langham Church, Norfolk, a swarm of bees had settled under the stone coping, and had built seven or eight combs, and at date of writing the combs were nearly covered with bees.—W. J. BELDERSON, *The Apiary, Terrington St. Clement, Lynn.*

SOME ESSEX NOTES.

[4526.]—*Starting Bekeeping.*—Possessed of most of what is necessary to successful beekeeping (a desire to keep bees, a large garden to keep them in, and open fields where the bees may roam at their own sweet will), your correspondent, S. Walian (4514, page 402), like the young man who was told that marriage does not bring all bliss, is appalled by the difficulties that may or may not have to be faced in beekeeping. But I would assure "S. Walian" that there is more appearance than reality in the appalling list of difficulties that a beekeeper may at one time or another have to contend with, and that if he continues to be "appalled" to the extent of being afraid to start beekeeping, he may—like the young man referred to above, who was afraid to take a certain step—regret it ever afterwards. A genuine desire to keep bees will tide the beginner over difficulties apparently insurmountable, and given a good location for honey-getting and a "beginning on right lines," success is practically assured. By right lines I would be understood to advise the beginner to be content to start at the bottom of the ladder; with not more than two hives to work with and watch during the day, and a reliable text book to occupy the evenings. The number of beginners that I can call to mind who have not been content to commence at the beginning and have failed as a consequence is quite appalling. Bee-keeping is one of the things that cannot be learned in a day, or from a booming newspaper article, but the price that the beginner pays for his experience is largely ruled by his willingness or otherwise to begin at the right end.

Bee Plants.—I agree with Mr. Scatchard (4515, page 402) that the strawberry shrub is a useful bee plant (but only from the bees' point of view), being one of the good things that it is possible to have too much of. While the strawberry shrub is useful to the bees under certain conditions, and the bees are certainly very fond of it, my experience is that the honey is bright green in colour; the green tint of lime honey is hardly noticeable in comparison.

Section Rack or Crate.—There seems to be different opinions among bee-keepers on the question whether it is proper to describe the 1-lb. sectional super as a rack or a crate. I have been interested in agriculture and horticulture and allied pursuits all my life, and have had to deal with the different degrees of boxes, of which there are three—box, crate, and rack. The question seems to be, when does a box cease to be a box and become a crate, and a crate a rack? In my humble opinion a box must be capable of enclosing something from view; a crate is a light open-worked box; a rack a light, open *coverless* box. — WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

STRAY SWARMS.

[4527.] I was interested in reading the account in B.B.J. of October 3, page 394, on stray swarms, and as we seem to have a good supply of such in this district, a few notes thereon may not be inappropriate. In one village through which I passed in going to the moors there was to be seen a captured swarm in a large sea chest with a gig umbrella spread over for a shade and to keep off the rain! while further on in the same village a cement cask, nearly four feet high, contained a double July swarm, which had evidently got to work in good earnest, for on tilting it to one side the combs would be nearly 11 ft. deep, the whole weighing considerably over 4 stone. Another man was the proud possessor of a stock in a skep supered with a lard bucket and a zinc pail on the top, to both of which the bees had free access. Then there was a swarm who had located themselves in an old disused barrel-churn, and one bee-keeper actually bought and had a stock in a washing tub! in which he assured me the bees were doing well. Some people seem to think anything will do for the bees, hence the common sight of bees being kept in cheese boxes and soap boxes. In one apiary I visited I was shown with great glee a bar-frame hive, but the man did not think it any better than his skeps, and no wonder, for on opening I found that empty bars running "parallel with the front" had been placed therein, but the bees, being more modern in their ideas than their owner, had worked the combs at "right angles." The old skeppists in the villages are very difficult to convert, and cling with a sincerity worthy of a better cause to that mode of keeping bees,

but the younger generation are beginning to see the advantages of modern management, and though the process of change may be slow, yet there is no doubt it is coming.—R. T. TENNANT, *Thirsk, October* 12.

PARAFFIN WAX FOR BEE-KEEPERS' USE.

[4528.] I enclose herewith copy of an extract from an article in the *Oil and Colourman's Journal* of October 1 on "Composition, Properties, and Application of the Waxes." The article was specially contributed, and may be of some interest to the readers of the JOURNAL. The writer does not appear to be very well up in the subject of beeswax, whatever his knowledge of other waxes may be. Foundation of paraffin wax on which the bees can work may be good enough in theory, but I would like the writer of the article to make a practical trial of it.—WM. HOOD, *Dalry, Ayrshire.*

BEESWAX.

"Bee-keepers prepare an artificial comb, or at any rate a foundation of paraffin wax, on which the bees can work. This lessens the wax production, and hence the production of honey. The combs, when full of honey, are emptied and then replaced in the hives, so that tame bees produce scarcely any wax; that occurring in commerce is from wild bees."—*The Oil and Colourman's Journal.*

[The *Oil and Colourman's Journal* evidently needs a little help in the "technical" department.—EDS. B.B.J.]

MACHINE-MADE BOTTLES.

[4529.] In reply to your correspondent, Will Hampton (4521, page 406), I beg to say that I must plump for the machine-made bottles. They are certainly rather heavier than the hand-made ones; but, in my opinion, are all the better for this, being stronger and better able to stand a little knocking about, but our friend, "Will Hampton," writes of sending by parcel post. Well, my experience is that, send what you will in the way of glass by parcel post, it is not nearly as safe as sending by rail, especially in rural districts, where all parcels are put in mail bags and conveyed from ten to twenty miles in mail cart. I should like to mention that at the beginning of this season I had in a consignment of machine-bottles, and only one broken out of a gross, and as regards show purposes I must certainly give them the "biscuit." The peculiar shades in the glass give such a nice effect to good, clear honey on the show-bench. I have used these bottles for show purposes this season all over the country, and Scotland and Wales, and on each occasion I have either taken a prize or been highly commended—and, to top it up, not one bottle have I had broken, either sending to or from the shows (but I barred the parcel post in every case).

Our season here has been a very good one, and the general quality of honey has been good. I have been troubled with the old enemy, "wax-moth," and had to break up three hives, but I am pleased to say they are well stocked again with driven bees, after having been well cleaned out, then washed in paraffin oil and burnt out. This makes a capital job of wax-moth hives.—W. G. DEAR, *Woodford, Salisbury, October* 10.

RELIQUEFYING HONEY.

HOW TO PREVENT GRANULATION.

The bottling of extracted honey for the wholesale and retail trade to supply a market which calls for and wants only extracted honey must necessarily be undertaken on a large scale, and one somewhat larger than most bee-keepers have been accustomed to battle with. Cincinnati, as many know, is a market for extracted honey from the small ten-cent bottle to the 500-lb. barrel shipped in by the carload, and bought by the manufacturer who uses a large quantity of the darker and inferior grades. Then comes the grocery trade, each store with its large or small display of various-sized bottles containing extracted honey of the best looks and the best flavour—the very cream of the bee-keeper's labour. This trade, although not as large as that of the manufacturer, is nevertheless a very important and delicate one; for, if the honey is granulated, it is looked upon with suspicion. A shelf containing glass jars filled with liquid honey, and one just below it with granulated honey of the same quality, the latter will stand untouched while the former is often sold twice over.

This state of affairs has set Mr. C. H. W. Weber, a Cincinnati honey-merchant, to thinking; for, to be continually replacing honey which granulates so quickly during cold weather, was a task almost impossible, and not at all profitable. Mr. W. follows a plan of putting up honey which he calls the new way of liquefying and bottling honey, which is not only a success so far, after the most severe tests, but also allows the work to be done rapidly and to perfection. Through the kindness of Mr. W., who explained everything in detail, and allowed me to take several photographs, I will try to impart some of this interesting knowledge to bee-keepers.

This new (?) method is to some extent based on the same principle which our mothers and grandmothers have been practising for years, and is now still in use, and probably will be through the present century and the next. We all know how much care is taken at home, during preserving time, to have all jars and cans containing the preserved fruit very hot just before they are sealed airtight. Fruit put up this way will keep for years, and the syrup will never show the slightest trace of granulation. Now, we may ask, why should not this

method preserve honey in liquid form? Well, as a matter of fact it does it in this case just as in the first. This is the foundation upon which Mr. W. bottles honey; and as most of the honey which comes to him is already granulated, his method must be worked on the wholesale plan; for, instead of working with quarts or gallons, he had to consider barrels at a time.

For this purpose a large tank was constructed, which holds one barrel of granulated honey at a time. This tank is an ingenious affair; in fact it is really two tanks in one. The inside, or honey-chamber, is surrounded by an outer tank made of copper, with a 3-in. space between the two for the water. This surrounding water is heated by a gas-stove of special design, which also acts as a support for the tank. The height of the water within the tank is registered outside at all times, and the amount can be increased by turning on the water connection which is on the opposite side. Should the water supply become too great, a turn or two on a small wheel at the bottom of the tank on the left-hand side allows the water to escape into a drain, and it is thus carried away.

When the honey has been reconverted into the liquid state, and the register on the tank shows that the proper temperature (180 deg.) has been reached, or has been so for at least five or ten minutes, one of the assistants allows a quantity of the hot honey to run into a very large coffee-pot, which is found to be an excellent article for the purpose on account of the large lip, which makes pouring without spilling an easy thing. He then proceeds to fill the empty glass jars ready at hand. Another assistant, supplied with corks and a mallet, takes the bottles as fast as they are filled, and hammers a cork into each. This method of inserting corks seems rather strange; for, to see him rain heavy blows upon the mouth of each bottle, makes one believe 'he possesses a wonderful amount of skill to hit the cork every time without breaking the bottle, but upon investigation the secret is found to be in the mallet, which is made of solid *rubber*; and any amount of hammering on the bottle would not break it. This mallet does its work well, for it puts the cork in squarely and rapidly, and has never been known to break a bottle. The corked bottle then passes on to Mr. W., who dips the same into a preparation of melted rosin and beeswax, which gives the bottle a perfectly air-tight seal, and also a nice yellow cap, which is in perfect colobr-harmony with the lighs yellow honey, and last, but not least, thit "cap" is cheap.

The bottles then pass to another assistant, who arranges them near a large block of ice in order that the caps will harden quickly, thereby preventing air-bubbles from working through the cap, which would leave a weak place in the corking and finally allow air to enter.

This part of the work is not yet perfected, as Mr. W. intends to have a track built, upon which a small carriage—constructed so as to hold about one dozen bottles in an inverted condition—will travel, and this carriage is to carry and hold the bottles over a tray of crushed ice. After the caps are hardened, the bottles are placed on shelves, and afterward properly labelled, ready for the traders, with a guarantee as to the purity of the contents and an assurance that no granulation will take place in the future.

The rapidity with which the work is done is really astonishing. Three experienced helpers can in three hours fill and seal 1,200 bottles. The success of this method may be seen from the fact that some honey put up last summer had been kept on ice since bottling, and, after passing through the present winter, is just as clear as it was the day it was put up, and not a single crate of granulated honey had to be replaced this winter. The whole operation described above of bottling honey is done right in Mr. W.'s large, roomy store, where customers and visitors are always welcome to witness the proceedings from beginning to end. This many take advantage of, and when they see a barrel of granulated honey transferred to the tank, and then, in a short time, extracted therefrom in the form of a thick golden liquid, and after following it through the various operations until the sealed bottle stands ready to receive the label, little doubt remains in their mind as to the purity of the article, and many leave with the proverb that "all pure honey granulates," badly exploded, for they have just learned that "all pure honey will not granulate," which may now be called the twentieth-century revision of what has heretofore been pumped into the ears of the public as a true test for pure honey.

Now, instead of trying to teach people to accept something they do not want, why not spend less time, do less talking, and make more money, by giving them what they *do* want, for "a man convinced against his will is of the same opinion still;" and if he asks for extracted liquid honey, and you talk him into buying a bottle of granulated honey, nine times out of ten he will hesitate the next time, and generally go where he knows he can get what he wants.

A tank like the one described costs about 100 dols. (£20); but this price depends a great deal on the pocket-book; for that sum includes a tank made of the best material, the gas-stove, and the cost of separate hydraulic connection. In fact, this price could be reduced nearly half, and still do the same work, but, of course, not so rapidly or conveniently. Probably in a few years, when the good points are known, a tank will be placed on the market for less than half the price, for it may become almost as great a necessity, if not as great, as the wax or honey extractor is to many bee-keepers to-day.—J. R. SCHMIDT, in *Gleanings* (American).

Queries and Replies.

[2742.] *Wintering Bees.*—I only started bee-keeping this summer, and now possess three hives. One of these—a stock of black Italians—holds ten frames, and all the combs are well stored with food, some not wholly sealed. This is the strongest stock, and I ask, 1. Do you advise me to close the frames up for winter without spacing them wider apart than the ordinary distance? The next hive is similar, but there are only five frames in it, and the queen is a young one. 2. Will it be safe to try and winter so small a stock? 3. The other stock is headed by a "White Star Italian queen," and not very strong in bees. They are on eight frames, with plenty of food. The queen is a young one. Do you think this lot will winter safely? I am anxious not to lose any of my queens, therefore if you could give me any help or advice what to do for winter I will be obliged, especially with regard to the weak stocks coming through safely. I could put them in a loft above kitchen if such a course is advisable—where no sun will reach them, although it is dry enough. 4. Is it too late to feed with sugar syrup? I have some frames of honey on hand; could these be given to bees in mid-winter?—TECHNICAL, *Crosslie, N.B.*

REPLY.—By "black Italians" we presume is meant a cross between those two races, but your term is a misnomer. For the rest, we reply—1. It is best for beginners to adopt the simplest methods involving the least amount of handling frames, therefore you had better leave the frames at ordinary distances. Many of our best bee-men do this always. 2. Yes, if the bees as well as queen are young and the stock is healthy. 3. You had better see to the cause of the colony being "not strong in bees," as stated, that being the main question with regard to safe wintering. We cannot safely judge from a distance on the point, and we cannot afford any help by way of advice beyond saying that small stocks of young, vigorous, healthy bees, headed by young queens, make the very best colonies for work in the following year. 4. Yes. Soft candy is the most suitable winter food, next to frames of sealed natural food, which are best of all.

[2743.] *Syrup-Feeding in Late Autumn.*—I write to ask your kind help in a great difficulty I am experiencing with my bees. I have four rather (not very) weak stocks of driven bees, hived about a month ago. They have half worked out six frames (which is the number I keep them to for the winter), and have good patches of brood in most, but I cannot induce any of the stocks to take the syrup provided and seal it up. I make the syrup exactly according to Mr. Cowan's suggestions in "Guide Book," and place the bottles on the frames, but cannot make them take it at any speed. 1. Can you give me any suggestions? I have asked many experienced fellow workers, but they say they have never experienced such a difficulty. The hives are facing south and sheltered from north winds, and kept warm inside by good and thick quilts. I am going abroad in about a fortnight, so am most anxious to hear of some remedy. Would giving dry sugar (moist) help at all? 2. Is there any way of feeding all the winter to keep them alive, for my gardener could attend to their feeding? I should like to mention a good and quick method of stopping robbing which I tried about three weeks ago. Place a piece of cloth dipped into carbolic solution along the flight-board, then place one or two slices of raw onion right along, especially near the opening, then place a piece of clear glass in front. I found this plan answer very well, and several friends have since tried it, and always found it succeed.—M. I. A., *Symmington, Hants, October* 12.

REPLY.—1. Bottle-feeders are unsuitable for use in building-up stocks from driven bees in late autumn. They do very well (indeed, best of all) if the work of feeding-up is begun at end of July or early in September, because better combs are built if food is not taken down too fast; but when nights are cold, as in late autumn, the case is different, and syrup food intended for winter stores should be given *warm* and in a warmly-wrapped "Rapid-feeder." By so doing, the "feeder" acts like sunshine to the bees, keeping them warm and active while carrying down the syrup. 2. Yes. If your gardener can prepare cakes of *soft* candy (see instructions for making in "Guide Book") and he keeps up the supply as often as needed, the bees may be kept alive on it if some stores now in the hives are also available.

[2744.] *Dealing with Slightly Diseased Stocks.*—The enclosed piece of comb was cut from one of my hives, and I shall be obliged if you will kindly let me know if it is affected with foul brood. I began bee-keeping last year by purchasing the "Guide Book," and shortly afterwards I got two swarms of bees, and have taken about 75 lb. of super honey from the two this season. Until now the bees have appeared perfectly healthy. I have always used naphthaline in hives and naphthol beta in the food. Thanking you in anticipation.—P. E. P., *Blackheath, S.E.*

REPLY.—There is foul brood in two cells only, which goes to prove that the preventives used have kept the disease in check. Probably there is a foul brood colony somewhere in the neighbourhood, from which the disease has been carried into your own hive. Continue to use the remedies, and keep a careful look-out on the hatching brood in the spring of next year.

[2745.] *Wax-Moth in Skeps.*—As an amateur bee-keeper I want to know the best thing to do with a stock of bees in skep that is badly affected with large white maggots and

moths. The bees are flying about all day and hang outside the hive at night. Would you advise turning out the bees and fixing up the comb after cleaning in a new hive? I have only started bee-keeping this season with this stock which gave out a good swarm. An answer in B.B.J. will oblige.—YOUNG BEE-KEEPER, *Swindon.*

REPLY.—You cannot turn bees from a skep at this season as proposed, neither can you "clean" combs infested with wax-moth and "fix them up in a new hive." In fact, the bees must be allowed to remain in the skep till next season; then, if the mischief is not too bad for the bees to cope with, the skep and combs will have to be burnt and the bees utilised in some way. Winter the bees in their present domicile and write us in spring with regard to their condition. We will then advise you further.

LECTURE ON BEE-KEEPING.

A very interesting lecture entitled "A Chat about Bees" was delivered by Mr. R. A. H. Grimshaw before the Crossgates (Leeds) Literary Society on Tuesday evening, October 8, illustrated by the diagrams of the B.B.K.A.

At the outset the lecturer proceeded to point out the difference between the honey-bee and the humble-bee, showing how the latter, which was popularly believed to be the bee of bee-keepers, was no use in the service of man from a honey-gathering point of view. He next dealt with the old-fashioned method of keeping bees in straw skeps, the inferior and often objectionable qualities of the honey taken therefrom, the cruel practice of destroying the bees in autumn, and followed on by giving an insight into the present method adopted and showing how much superior it was.

Then followed an outline of the life of the bee from the egg to the perfect insect, the work of nurse-bees, the building of comb and queen-cells, and, finally, the cause of a swarm.

He next dealt with the cross-fertilisation of flowers by bees, and showed the advantage to fruitgrowers from bees being kept in the district.

After speaking an hour and a half, the lecturer spent some time in answering various questions, which, with the usual vote of thanks, brought the evening to a close.—(*Communicated.*)

Bee Shows to Come.

October 23 to 30, at Olympia, Northumberland-road, Newcastle-on-Tyne.—Show of Honey in connection with the Newcastle-on-Tyne Grocers, Bakers, and Confectioners' Exhibition. Six open classes, and four confined to Northumberland, Cumberland, and Durham. Medals and cash prizes. Schedules from Jas. Waddell, Wooler, Northumberland. Entries close October 21.

October 24 and 25, at Kilmarnock.—Honey Show in connection with the Ayrshire Agricultural Association. Eleven classes for honey, with liberal money prizes. Schedules from John Howie, Secretary, 58, Alloway-street, Ayr. Entries close October 11.

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for honey. Schedules from J. Palmer, Hon. Secretary, 17, Brandlane, Ludlow. Entries close November 5.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. WALKER (Newton-le-Willows).—*Greatest Age at which Queens may be Mated.*—Instances have been given of deferred mating extending to thirty or forty days after hatching, but such cases are so rare as to render it only misleading to mention them in print. The best thing is to pass such exceptional cases over altogether in all practical bee-work. If weather is adverse during the time a queen should mate, *i.e.*, three to five days after birth, we must wait for a sunny, warm day, such as brings the drones out, before any hope of mating can be entertained. If unfavourable weather continues for ten to fifteen days longer we may fully expect to see eggs laid which will produce drones only. But we cannot be quite sure on this point till drone-brood is seen in worker-cells.

R. A. (Bicester). — *Honey-comb Design Damaged in Transit.* — We regret very much to hear that the capital design which worthily received a prize at the "Royal" Show, Cardiff, in June was, as you say, "smashed" in transit from the show. It is, of course, difficult to fix blame, but if properly packed and handled carefully by the railway company, we consider it should have reached you in safety. The comb was so exceptionally well attached to the glass, as we saw it at Cardiff, that if packed glass downward so that the combs rested on their natural base — just as in a skep turned bottom upward—and if labelled "this side up with care," no harm that we can see should have followed.

X. Y. Z.—*Feeding Bees in Winter.*—First, let us say you should send name and address when writing, not necessarily for publication, but as a guarantee of good faith. For the rest, the list of queries sent shows that

you do not possess even the most elementary knowledge of bees or bee-keeping, and to any one who hopes to succeed in the craft a good text-book is absolutely indispensable. The "Guide Book" may be had from this office for 1s. 8d. post free, and in it will be found several pages devoted to the items you seek information upon.

J. P. Fison (Cambs.).—*Honey as Food.*—We cannot imagine any one "mixing something with honey," if the latter is of good quality, in order to improve it. Those who object to the sweetness of clover or flower-honey should use that gathered from the heather bloom. The latter would, we think, quite meet the requirements of the persons you name.

Edgar Wilson (West Norwood).—*Combs Built on Glass.*—Your letter, duly received, vaguely refers to "the inventor of this system," without stating any particulars with regard to the "system" or where the interview took place. We will, therefore, make inquiry of Mr. Till, whose name you mention, with regard to the matter, and where the interview took place, before deciding about giving publicity to your communication.

Beta (Abergavenny).—*Medicating Bee-food.*—1. The directions in "Guide Book" when medicating bee-food with N. beta must be adhered to. Do not vary the quantity as proposed; it will nullify the benefit intended if you do. 2. It is altogether too late to think of transferring diseased bees to a clean hive this year.

S. G. Stebbing (Beddington). — *Swarming Experiences.* — Much obliged for cutting from Canadian newspaper, but it is rather long for insertion; and it savours too much of the Transatlantic "penny-a-liner" for our readers' tastes.

G. H. Mitchell (Llandaff).—*Queens and Driven Bees in October.*—1. For information concerning names and addresses of persons supplying driven bees and queens we can only refer you to our prepaid advertisement column. It is now too late to procure them unless an unusual chance occurs. 2. Write to the Secretary of the B.B.K.A., Mr. Edwin H. Young, 12, Hanover-square, London, W., on matters connected with resuscitation of County Bee-keepers' Association.

Wm. Hood (Dalry, N.B.).—*Quality of Bees-wax.*—Your sample is very good indeed and quite fit for the show-bench. It would stand far in front of a sample "brownish in colour" in the view of any competent judge.

J. Kearley (Harborne, Birmingham).—*The "W. B. C." Hive.*— Full particulars and dimensions—with plan and elevation—of the hive referred to may be had from this office for 2½d., post free.

Clie Beta (Newmarket).—*Insect Nomenclature.*—The insect sent is a male hornet.

Viator (Criccieth). — If you will kindly comply with our printed rule, *i.e.*, "send name and address when writing, not necessarily for publication, but as a guarantee of good faith," we will write a personal line explaining delay and other matters.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

W. S. Moody (Driffield).—Comb is affected with foul brood, not of virulent type.

W. H. Wyatt (Chard, Som.).—Sample of comb sent is altogether unsuitable for examination with reference to foul brood. It was smashed flat in post, of course, seeing there was no protection at all beyond the letter envelope in which it was posted. We require a small piece of comb with brood (some unsealed where possible), and packed in a small tin box (an old mustard tin answers admirably) to protect it from injury.

Honey Samples.

B. S. H.—The honey in section is only fair in quality, being rather thin, and dark in colour. It is from mixed sources, the only distinctive flavour being from the lime blossom. The delay in this reply was owing to your not leaving name and address along with sample, as we should have written a line by post and then dealt with the section, which, from not being properly packed, was leaking all over the place and causing us to wish it "elsewhere."

Brackley.—We will be very pleased to give our opinion on the "*points* for and against, and also the order of merit enclosed samples of honey will take on the show-bench," as requested; but, before doing so, will be glad to know if our view is intended to be used as a revision of the award of the duly-appointed judge of the show in question. In the latter case we must decline to express an opinion, seeing that by doing so an unfair and objectionable precedent would be established which could only lead to trouble and friction in all directions. Our personal opinion must at all times be taken only for what it is worth, and every other judge of honey who officiates at shows is as much entitled to *his* opinion as we are to ours. Besides, it will be plain to every one that only inconvenience will arise if "editorial opinion" is to be brought in whenever a dispute arises.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 10th inst., at 105, Jermyn-street, S.W., Mr. T. I. Weston being voted to the Chair. There were also present Miss Gayton, Hon. and Rev. Henry Bligh, Major Fair, Mr. R. Hamlyn-Harris, Mr. J. H. New, and the Secretary. Apologies for inability to attend were received from Messrs. F. B. White, W. Broughton Carr, W. H. Harris, and P. Scattergood.

The minutes of the previous meeting were read and confirmed.

Two new members were elected, viz. :—Rev. J. Batchelar, Dagnall Rectory, Bucks; Mr. W. Hood, New-street, Dalry, Ayrshire.

The Report of the Finance Committee was presented by Mr. J. H. New, and agreed to.

Arrangements for the Second Class Examination to be held on November 22 and 23 were completed and Examiners nominated.

Communications were read from Col. Walker and Mr. W. H. Harris. It was generally thought that the many valuable suggestions contained therein were such as required very full and careful consideration by the Council before action could be taken, and the letters were accordingly ordered to be held over till the next meeting.

The remaining business before the Council comprised the necessary preparations for the Conversazione of Members held later in the day.

The next meeting of the Council was fixed for November 21.

CONVERSAZIONE.

(*Continued from page* 412)

The Chairman, having learned that Mr. Trimmings, one of the victims of the claim for damages to horses in what will be remembered as the "Gedling Bee Case," was present, called upon that gentleman to explain the details of the accident.

Mr. Trimmings then described at considerable length the circumstances. The bees in question, he said, were kept in a "spinnery" (a narrow space of land running between two hedges), and in the adjoining field were two farm labourers mowing. They had occasionally to sharpen the knives for the machine, which they, without thinking, did close to the hive entrances, and here they also halted for rest. The horses were in a perspiration, as it was a very hot day, and the noise and smell probably irritated the bees, though not sufficiently to start them stinging had they not received further cause. Anyway, it appeared that the bees flew round the heads of horses and men, the latter endeavouring to knock them away. No doubt in this commotion one of the horses was stung, for it began to rear and plunge. Then the mischief was irreparably made worse, coats, hats, sticks, and the whip being freely used to drive away the bees, with the inevitable result that the horses kicked and became entangled in the reins, then fell into the hedge-bottom, while the men had not the courage to try and liberate them from the machinery, but ran away and stood looking on at the mischief for nearly an hour and a half before they sent for him (the speaker). When he and his friend (Mr. Mackinnon) arrived they went and cut the harness away from one of the horses, the other having got clear and run away. The poor brute was nearly covered with angry bees, and was so fixed that in order to release it the pole had to be sawn in half; ten minutes or more being occupied before the animal could be released. A little courage and common sense when the horses were first stung would, no doubt, have prevented the disaster, because at that time few of "the bees were irritated; but apart from that it was clear the accident arose entirely from ignorance and stupidity on the part of the labourers. One of the men said 'the bees came by hundreds of thousands," the other attributing the catastrophe to the fact that he (the speaker) "had been taking the kings and queens away the day before."

Readers of the B.B.J. very kindly subscribed, as did also the Notts Association, towards defraying the claim of about £70 made against him which was paid; but notwithstanding that, some malicious persons during the following week actually put gas tar under the hives, and set fire to them. With regard to the accident the owner was informed that whatever loss he had sustained, if it could be legally or only morally substantiated, should be made good. The actual loss according to his (Mr. Trimmings') calculation was about £28, and yet £70 had been paid in settlement thereof. Both horses died.

General Sir Stanley Edwardes, who next spoke, attributed the attack to the objection of bees to the noise of sharpening caused by iron and steel in contact. His own gardener always received notice to quit from the bees, in the shape of two or three stings, when he sharpened his scythe near to the hives, although he could approach the latter with impunity when otherwise engaged.

Two or three other gentlemen narrated somewhat similar experiences, one ascribing the irritation of the bees to the rapid movements during the process of sharpening.

Mr. Mackinnon did not think the noise alone caused the onslaught. He arrived on the scene just before his friend, Mr. Trimmings, and saw people waving hats, coats, and handkerchiefs frantically, striking at the bees as though they had all gone mad. That, in his opinion, first started the stinging, and not the sharpening of the scythe. He hoped the insurance scheme mentioned earlier on would be adopted, for it was highly necessary as a

protection to bee-keepers, especially those who had the misfortune to live amongst unpleasant neighbours.

Mr. Reid believed the origin of the attack was not the noise or the motion, but the smell of crushed vegetable substances, such as would be emitted by hedge-clipping and lawn-mowing. He had made experiments while hoeing or pulling up weeds, plants, or potatoes, all of which vegetable matter if placed near hives excited the bees, while digging bare ground in their vicinity made no impression. A crushed tomato was also a great irritant.

The Chairman thought that a sweating horse gave off the odour of food that it was habitually fed on, which was vegetable matter, and thereby confirmed Mr. Reid's theory.

A lady present stated that her pony when at work and hot was obnoxious to the bees, while if grazing in the field it remained unheeded.

Mr. E. H. Taylor doubted that the smell of vegetable matter irritated bees. He had 150 stocks in his apiary, and his gardener was regularly at work near the hives, but was seldom stung.

Mr. Jesse Garratt then referred to the absence of Mr. J. M. Hooker, which had been noted by several members, that gentleman being one of the most regular visitors at *Conversazioni*. It was perhaps not generally known that Mr. Hooker had already sailed for his new home in America, and that they had therefore most likely seen him for the last time. His (Mr. Garratt's) object in speaking was to say a word in favour of the movement with which his own name and that of others had been associated in the BEE JOURNAL, the object thereof being the presentation of a testimonial to their old friend. To hold a conversazione without the presence of Mr. Hooker was alone a marked event, and he was sure that everybody who had been accustomed to see that gentleman there would feel that the cause had suffered a severe loss by his absence. It was undoubtedly a fact that Mr. Hooker had been foremost in the movement to establish modern bee-keeping, for, with the single exception of Mr. Bligh, nobody now living was contemporary with him as a colleague on the Committee of the B.B.K.A. twenty-seven or more years ago. He had supported the most useful inventions, and his work had led up to the perfecting of modern appliances, numbers of which he had inspired if not actually constructed. All those who feel they have been benefited by the establishment of bee-keeping on modern methods, and those who have been associated with him in friendship at these and other meetings would, he (Mr. Garratt) felt sure, take up the proposal in a warm and hearty manner. It was probably an open secret that Mr. Hooker's home circumstances has been somewhat sad of late years. His wife died a long time ago, and he had been separated for many years from the other members of his family, one of whom he was now en route to join in America. Nothing would tend to soothe more the pain he felt most strongly, in taking leave of the bee-keeping community, than the presentation of a testimonial in the shape of a gift accompanied with an inscribed address, which would be sufficient to assure him of their esteem and respect and high appreciation of his services. Moreover, he (Mr. Garratt) believed that this form of acknowledgment would afford him the greatest happiness. He hoped whatever was decided upon might be carried out speedily, and he also recommended that the amounts respectively contributed should not be published along with the names of those supporting the movement, although, of course, every participant would have a right to see the subscription list if he wished.

The Hon. and Rev. Henry Bligh had great pleasure in supporting Mr. Garratt's suggestion. Mr. Hooker was one of the seven gentlemen who met to start the B.B.K.A. He (the speaker) could not now call to mind the names of all, but he remembered that Mr. C. N. Abbott and Mr. Hunter and himself were among the number. Ever since that time their old friend had been constantly active in forwarding the interests of the Association, and he probably knew as much about bees and bee-keeping as any member of it. Personally he had not yet seen the subject referred to in the BEE JOURNAL, but hoped all bee-keepers would join in raising some little tribute to the good work achieved by Mr. Hooker, and in recognition of the kindly influence he had exerted over their proceedings.

The Chairman added his commendation of their friend's labours on behalf of the cause. Mr. Hooker was a man of strong opinions combined with great earnestness and good judgment, and it would be extremely difficult to fill his place. They were therefore anxious to show their respect and regard for him on his departure for a new home.

Mr. R. Hamlyn-Harris then related a flagrant case of improper feeding of bees which came to his notice a few months ago in Scotland. The owner of them was not connected with any association, and probably had never heard that any existed. He was the chief grocer and a large provision dealer in the village, and has a great many hives in his garden, which ran alongside the one where he (the speaker) was staying. It was—extraordinary to say—the custom of this grocer to empty tins and bottles of sweets and syrups on the hives and floor-boards for the bees to feed on, and sweets of the commonest character, too. He (Mr. Hamlyn-Harris) bought of this tradesman a 2-lb. section, which tasted nice, but was unquestionably the product of the rubbishy sweets on which the bees had been fed. He afterwards took a photograph of the apiary, and found to his astonishment large bowls of syrup lying about, which were being worked busily on by the bees. Evidently the

so-called honey was practically a fraud. He believed this syrup-feeding was done in ignorance, and the reason he mentioned it was that bee-keepers might see what advantage there was in the Association's work extending all over the United Kingdom. Scotland was, he thought, rather an unprofitable country for bees except for the heather season, and experts seldom visited any hives when at the moors. One reported the district he had inspected as "raging with foul brood."

Mr. Reid said he had judged for the Kent and Sussex Association's Show held at the Crystal Palace that week, and he saw there some beautifully white sections that had come from Scotland, and according to his usual custom, not being satisfied with colour merely, he had tasted the contents of these sections. Fortunately there were two gentlemen with him, both of whom, as well as himself, could distinctly trace the flavour of sugar syrup. The fact was the "honey" was pure syrup and nothing else. As regards extracted honey there were also samples of beautiful colour, which, however, did not yield much aroma, although if judged for appearances alone they would have ranked first. But here also the taste revealed syrup, and upon inquiry it was found that in both cases the product came from the same apiary.

Mr. H. Edwards related cases within his own experience in which bees had been fed on medicated sugar syrup; one in the county of Bucks, where the grocer complained about the trade in honey falling off, upon which he (the speaker) tasted a sample, found it to be nothing but "golden syrup." He hoped such cases were rare, but the Association might enlighten people so as to stamp out such practices.

Mr. Trimmings said he had heard in the Midlands of similar instances.

(*Conclusion of Report next week.*)

KENT AND SUSSEX B.K.A.

SHOW AT THE CRYSTAL PALACE.

(*Continued from page* 413.)

Messrs. Walter F. Reid, A. J. Carter, and F. Brett judged the exhibits, and made the following awards:—

Observatory Hive with Bees and Queen.—1st, James Lee & Son, Silver-street, W.C.; 2nd, E. H. Taylor, Welwyn; 3rd, James Lee & Son; v.h.c., W. Herrod, Swanley.

Twelve 1-*lb. Sections* (members only).—1st, Rev. M. W. B. Osmaston, Goodnestone, Dover; 2nd, E. D. Till, Eynsford, Kent; 3rd, W. Herrod; A. Hounson.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Rev. M. W. B. Osmaston; 2nd, E. D. Till; 3rd, J. H. Seabrook, Longfield, Kent; 4th, W. Herrod; h.c., W. Killner, Billingshurst, Sussex; c., Moreton Lord, Northiam, Sussex.

Three Shallow Frames of Honey for Extracting.—1st, Geo. Wells, Aylesford, Kent; 2nd, E. D. Till; 3rd, Rev. M. W. B. Osmaston; 4th, Miss Carter, Farningham.

OPEN CLASSES.

Twelve 1-*lb. Jars Extracted Honey.*—1st, S. Temblett, Andover, Hants; 2nd, W. Loveday, Harlow, Essex; 3rd, J. Kerr, Dumfries, N.B.; v.h.c., E. D. Till; h.c., J. Smart, Andover, Hants; c., T. Hood, Pickering, Yorks, and J. Sandall, Bishops Waltham, Essex.

Twelve 1-*lb. Sections.*—1st, E. Lodge, Chelmsford, Essex; 2nd, Anthony Bayley, Wordsley, Stourbridge; 3rd, J. M. Balmbra, Alnwick, Northumberland; 4th, W. Herrod.

Twelve 1-*lb. Jars Granulated Honey* (members only).—1st, Geo. Dow, St. Mary Cray, Kent; 2nd, R. Court, Sittingbourne; 3rd, W. Loveday; 4th, H. M. Turner, Northleigh.

Honey Trophy (open).—1st, H. W. Seymour, Henley-on-Thames; 2nd, E. D. Till; 3rd, Miss Carter.

Six 1-*lb. Sections* (cottagers only).—1st, E. Lodge; 2nd, W. Loveday; 3rd, A. Hounson, Bosham; 4th, H. Goodsell, Biddenden, Cranbrook.

Six 1-*lb. Jars Extracted Honey* (cottagers only).—1st, W. Loveday; 2nd, W. G. Dear, Woodford, Salisbury; 3rd, A. Hounson; 4th, C. Hall, Sundridge; h.c., W. H. Leigh, Ide Hill; c., E. Kitney, Dartford.

Super of Honey.—1st, W. Loveday; 2nd, F. Moss, Farningham; 3rd, G. Dow.

Three Shallow-Frames of Honey for Extracting (cottagers only).—1st, W. Loveday; 2nd, Geo. Dow.

Single 1-*lb. Jar Extracted Honey.*—1st, S. Temblett; 2nd, G. Walker, Wendover; 3rd, J. Smart; h.c., W. Spence; c., T. D. Linfield, W. G. Dear, and Rev. H. F. Goffer, Caistor, Lincs.

Single 1-*lb. Section.*—1st, Anthony Bayley; 2nd, L. Bailey, Horsham, Sussex; 3rd, W. H. Seymour; v.h.c., W. Herrod and W. Rowell; h.c., A. Hounson.

Beeswax.—1st, John Berry, Llanrwst, N. Wales; 2nd, Chas. Palk, Horsham, Sussex; 3rd, C. Hall; h.c., W. Herrod and W. H. Seymour; c., W. Loveday.

Honey Vinegar and Mead (open).—1st, W. H. Seymour; 2nd, Mrs. Hammond; 3rd, M. Killner.

Complete Frame Hive.—1st, E. H. Taylor; 2nd and 3rd, Jas. Lee & Son.

Complete Frame Hive (price not to exceed 10s.).—1st, E. H. Taylor; 2nd, Jas. Lee & Son.

Collection of Hives and Appliances.—1st, Jas. Lee & Son; 2nd, E. H. Taylor.

Objects of General Apiarian Interest.—1st, Mrs. Bancks, Green-street Green, Dartford; 2nd, H. Edwards, Sunningdale, Berks; 3rd, Jas. Lee & Son; 4th, E. D. Till.

Medals and certificates were also awarded for general merit in the exhibits staged as follows:—

Silver medal of B.B.K.A., E. D. Till; bronze medal of B.B.K.A., W. H. Seymour; silver medals of K.&S.B.K.A., Rev. M. W. B. Osmaston and Mrs. Bancks; certificates of

merit, Rev. M. W. B. Osmaston, James Lee & Son, E. D. Till, and H. Edwards.

*** *Reports of shows at Newcastle and Frieckheim, N B, are in type, and will appear next week.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4530.] Now that the season's bee-work out of doors is (or ought to be) accomplished, we turn our thoughts to the past and our hopes to the future. In this way we find many things requiring prompt attention at the right time that were put off or neglected altogether. We now, when too late, realise that neglect has probably cost us a quantity of honey, because there is no doubt if we had attended to spring feeding, the few shillings spent in sugar would have been true economy, by ensuring us an increased "take" of honey. Or we may have deferred putting on supers for a week instead of "giving room in advance," and these few days crowding the brood-nest started the "swarming fever," and our best stocks, in consequence, may have swarmed themselves useless for honey production, and ended by being "queenless" at the close of the season. Should this have been the experience of some of our readers, let their losses of 1901 prove "pointers" for 1902, and do not forget to make a "note" for future reference.

Duplicate Prize winning.—Mr. W. Loveday, in B.J. of September 26 (4502, page 383), makes a rather serious charge (by inference, at least) against me when insinuating that I took prizes at both the "Confectioners'" and the "Grocers'" Exhibitions. Presuming, then, that I am the "well-known bee-keeper" referred to, I beg to say that my hands are clean in this matter, as they always have, and will be, so long as any product of mine graces the show-bench. Our Editor's remarks on page 371, regarding the "Confectioners'" exhibition, convey his regret at the small number of entries at the first show, and then it was seen that when the "Grocers" of the country joined forces with the bee-keepers they had a much more satisfactory and more successful exhibition. Now it happens that my son, F. W. Woodley, Camp Stores, Compton, is a master-grocer, and he made the entries. I sold him the honey from my apiary, and it was a *bonâ-fide* transaction But as the staging had to be done on Friday afternoon or Saturday morning, it was impossible for him to stage the honey himself, as he could not leave his business to do so. Again, at the close of the show he could not attend to the packing up, consequently this work devolved on me, but I received no pecuniary benefit whatever; in fact it was a loss (of time), as I only charged him "out of pocket expenses." If Mr. Loveday or any one else, after carefully reading the Schedule and the "Regulations" of the Grocers' Exhibition, can bring any charge against me or my customers for unfairly exhibiting honey (whether they be relations or not, as "winning exhibits" at all three of the past Grocers' Exhibitions have been purchased from me), I shall be prepared to meet it in the most unequivocal manner. And now, a word with my other friend, Mr. H. W. Seymour (4524, page 414), who writes on "Prize-winning in Duplicate." I ask: Is it not recorded in the authorised reports of bee-shows (and other matters relating to apiculture), printed in the BRITISH BEE JOURNAL, that Mr. H. W. Seymour was awarded 4th and 5th prizes for dark honey (*vide* B.B.J., vol. xxvi., page 420) in 1898? Also in the following year (vol. xxvii., page 419) it is shown that the same H. W. Seymour was awarded 2nd and 3rd prizes in the "Trophy class." Again, so recently as 1900 we read that H. W. Seymour was awarded 1st and 2nd prizes for dark extracted honey (vol. xxviii., page 397). I think these past successes of my friend clearly show that the "practice is not coming into vogue," but is already an established custom. I believe I am within the mark when I assert that these are not the only occasions in which Mr. Seymour has made more than one entry in the same classes at the Dairy Show, which are not recorded, as they failed to get an award. I also fail to see—in the light of my friend's past successes—how he can complain of its being hard on him or "small bee-keepers," and then with any fairness dub me a "deck-sweeper" in 1901. He surely forgets that the euphemism was applicable to himself at the three previous Dairy Shows. Mr. Seymour also says he refused to stage his exhibit at the Dairy Show, but he has not told all the truth. My impression is that, being a good general and seeing the drift of the "show," he made tracks with his "trophy" to the "Crystal Palace," and there secured first prize with it.

There is, in my opinion, a greater deterrent to exhibitors than the "more than one entry" in *the "Trophy class,"* and that is the withholding of prizes except a certain number of entries are made. If our friend Mr. Richard Brown had secured second place at the show in question, I should certainly have pleaded with the judges and the steward to have awarded another prize (after the judges had done their work, I mean), as it is well within their powers to recommend that all the prizes in a class be awarded, irrespective of the number of entries, if the exhibits are of suffi-

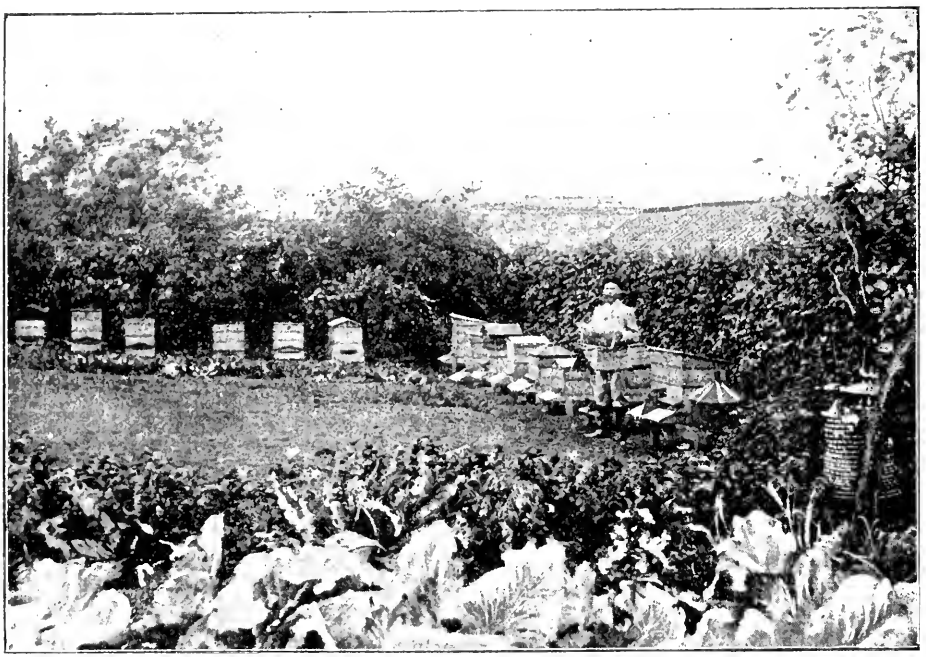
(*Continued on page* 426.)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In Mr. Turnbull, whose bee-garden appears below, we have another worthy tradesman who makes a pleasant and profitable home hobby of his bee-keeping. His experiences as given are pleasant and instructive reading to all interested, so we need add nothing to the "notes" sent at our request, except to say his honey is excellent, and to reciprocate the good wishes to all expressed in the concluding lines, when he writes as follows :—

"I had for a long time the desire to keep bees, but never possessed a suitable place for the purpose until I took possession of the premises on which my hives are now placed. My first skep was purchased in March, 1894, from a skeppist who used the 'sulphur pit,' a practice which seemed to me like "killing the goose that laid the golden egg." As soon therefore as I got a start, my first move was to look about for literature dealing with bees and bee-keeping, and in this way first discovered the BRITISH BEE JOURNAL on a railway bookstall. I bought a copy, and have been a regular reader ever since. Moreover, by following the instructions given therein, and taking to heart the still more valuable lessons in Mr. Cowan's 'Guide Book,' I am able to do most things required of a bee-man without ever having to seek the advice of an 'expert,' or any one else. I soon saw the decided advantages to be obtained by using the modern frame-hive, and purchased three hives that had been the property of a neighbouring bee-keeper now deceased. I did this notwithstanding the warning given in old bee lore, viz., that bees bought under such conditions would be sure to follow their late master and die! But the stocks did not do well with me, which was not to be wondered at. They were in a very neglected state, the frames all braced so together as to make it quite impossible to remove them until the combs had been cut asunder with a carving knife. But I will not dwell on that trouble. Being a fair amateur carpenter I now make my own hives, of which I have various styles, but the one I prefer above all others is the 'W.B.C.' I started this present year of 1901 with thirteen stocks, and considering how I am handicapped by the wholesale sugar-boilers we have in the village, who burn my bees by the shovelful when they visit their factories (as bees will do if not kept out), I have, as I think, done very well.



MR. J. TURNBULL'S APIARY, CONISBOROUGH, NEAR ROTHERHAM, YORKS.

"This is the result of my work for the season. I am going into winter quarters with twenty stocks (having had seven swarms), one rack of well-filled sections, and have secured a quarter of a ton of excellent extracted honey from shallow-frames (a sample of which I enclose for your verdict), and one rack of well-filled sections; this being all the comb-honey I worked for. Hoping my brother bee-keepers have all done as well or better."

(*Correspondence continued from page* 424.)

cient merit. I notice in the chronicles of past Dairy Shows that all three prizes have been awarded in the "Trophy Class" when only five entries have been made. The number of entries this year was five, but as Mrs. Woodley was placed 2nd, I could not either ask or argue on the matter; but I hope it will not be lost sight of another year, and that in the "Trophy Class" all three prizes will be awarded according to merit. I also hope that our friend Seymour will be one of the winners. I think Mr. Young will see the fairness of this suggestion, for considerable expense is attached to this class. The honey has to be staged by the exhibitor and removed at the end of the show by the owner or his agent; then the railway charges are a heavy item. Indeed, these expenses altogether deter many from exhibiting, and when only one prize is awarded, as my friend observed after the judging, "it puts the damper on." "Why," he says, "it cost me 25s. for entry fees and carriage of honey, and then the journey up to stage it, and only a 'mention.' No more of it, William!"—W. Woodley, *Beedon, Newbury.*

THE DAIRY SHOW.

DUPLICATE PRIZE-WINNING.

[4531.] I am pleased we have a source whereby we bee-keepers can air our views; hence the value of our Bee Journal. We need not quarrel (or ought we to) over "sweet" things, but I must say that I most thoroughly endorse the remarks of our friend, Mr. H. W. Seymour (4524, page 414), in B.B.J. last week, and I fancy all bee-keepers would be pleased to hear that the Show Committees of the future intend to take this matter up seriously and remedy it.

Personally I have been very successful in my exhibiting this season, and had I adopted the "grab-all" principle, might have taken double the number of prizes. I am content, but none the less confident, that if these things are allowed to go on without a check the number of exhibitors at our shows will materially decrease, a change for the worse which I, for one, should be extremely sorry to see. For the sake, then, of "bee-craft" and the pleasures it brings us, it should be each one's duty to encourage smaller exhibitors (not to swallow them up).

As things are at present, it appears that one family might clear the whole show-bench of prizes.—Stephen Temblett, *Andover, October* 21.

[4532.] I was very glad to see Mr. H. W. Seymour's letter (4524, page 414) in last week's B.B.J. on the above subject.

Having attended most of the large shows in London and numerous provincial ones, large and small, for the last twenty years, I am convinced that this "prize-winning in duplicate" does much harm, and deters many from competing. Very soon after the Wiltshire Bee-keepers' Association started we made two rules:—1. "That no exhibitor could make more than one entry in any class." 2. "That the winners of B.B.K.A. Medals should not take them during the two years following."—W. E. Burkitt, Hon. Sec. Wilts B.K.A., *Buttermere Rectory, Hungerford.*

JUDGING AT THE DAIRY SHOW.

[4533.] Would you kindly allow me space to offer a word on the judging, &c., at the Dairy Show, also with regard to the number of prizes awarded in some classes? Take, for instance, the class for "Heather Honey in 1-lb. Jars" (eight entries). Only two prizes were awarded, and most of the exhibitors would pay an entry fee of 5s. per entry, besides paying the railway carriage to and from London. I think it very unfair to withhold any of the prizes. I was myself an exhibitor and also a visitor to the Dairy Show, and was very much struck with the awards in that class. The first prize lot were far from uniform in colour; not more than two of the jars could be called alike, while some had nearly "granulated." The same occurred with the second prize lot. I might say that I took a jar from the first prize lot and held it up to the gaslight, in the presence of Mr. W. Herrod, and it was so nearly transparent any one could hardly see any difference between the "dark" and the "medium" coloured honeys in their respective classes. I was also showing twelve 1-lb. jars myself, all of which were filled with pure heather honey, and every jar uniform in colour. It could also be seen at the first glance by any one that my dozen jars were from one source only. I was also informed that one of the judges at the "Dairy" officiated at the "Grocers'" Exhibition the previous week, and awarded 1st prize in a competition of fifteen entries to this same honey, which had never been removed out of London, whereas it did not receive a mark of recognition of any kind here. Others of the same colour and uniformity were also left out in the cold which, in my opinion, were by far the best heather honey. I might say I could not find fault with any other class. It seemed to me that, but for this, the exhibits were all well judged. Finally, I ask, could not tinted glasses be provided for heather honey?—Jonathan Shaw, *Sandsend, Yorks.*

[We are at all times unwilling to stifle fair criticism, even concerning judges' awards, if bee-keepers have a real grievance needing ventilation. In the above case, however, our correspondent puts himself "out of court" at once by making a statement without taking the trouble to verify it. In other words, let us say neither of the two judges who officiated at the "Grocers'" Exhibition took any part in judging at the Dairy Show, as stated. We

must also be excused for adding that exhibitors obviously can never be unbiassed critics on the question of "judging."—EDS.]

TASTING HONEY AT SHOWS.

[4534.] Before judges can decide on the quality of the different samples of honey staged at a show it is absolutely necessary to taste them. Not only should extracted honey be tasted, but an experienced judge will not pronounce a verdict upon comb-honey until he has ascertained its flavour. The most common implement employed for tasting purposes is a small paper-knife of horn, ivory, or bone, but I have seen pencils, penholders, keys, knives, and various other articles used. The instrument chosen is immersed in the honey, and with the adherent liquid is placed in the mouth. After the honey has been sucked or licked off the more or less sticky implement is replaced in a more or less dirty pocket until again required. This alternate placing of an article in the mouth and in a jar of honey, which will be subsequently eaten by others, is, to put it mildly, not nice. It has even its dangerous aspects, for judges are chosen for their knowledge of honey, not because of their freedom from tuberculous or other contagious disease. In our homes none of us would place our dirty spoons or forks in food that was to be consumed by others, and should we see a foreigner doing so we would consider that he had failed to learn one of the most elementary rules of civilisation and cleanliness. In any case where knife is used, the honey should be transferred from the knife to finger, and the finger to the mouth, thus avoiding the direct contact between knife and mouth that is so objectionable. For some years, however, I have used a very simple device, shown in the illustration, which obviates most of these difficulties of honey tasting. It is made of solid glass rod, about ¼ in. in diameter, and 3½ in. long. One end terminates in a blunt point, while the other is drawn out to a thinner point, about 1¼ in. long, at the extreme end of which is a small disc about ⅛ in. in diameter, so that this end has somewhat the shape of the head of a wire nail. This thin end enables a sample of comb honey to be tasted without injuring more than one cell—a point of some importance to exhibitors. The method of using is as simple as the appliance. For run or extracted honey the thick end of the taster is immersed in the honey, which is then wiped off upon the finger or palm of the hand by a rotary movement which leaves the glass quite clean and ready for use again. For comb honey it is only necessary to push the thin, flanged end into a cell, when it will be found, on withdrawal, to bring out sufficient of the contents of the cell for tasting purposes. Of course this small quantity of honey should also be transferred to a finger for placing in the mouth.

I think judges and others tasting honey at shows should adopt this or some similar method in preference to that which is now in general use.—WALTER F. REID, *Fieldside, Addlestone, Surrey, October* 14.

SOME ESSEX NOTES.

[4535.]—*Bee Plants.**—Your correspondent, Mr. Belderson (4525, page 414), refers to the Michaelmas daisy as a bee-plant. This plant is only one of a number of classes that could be mentioned as giving both pleasure and employment to our bees, though they cannot rightly be described as "honey-yielding plants." I have no doubt that it would have given Mr. Belderson great pleasure to have seen a group of Michaelmas daisies grown in "24 size" pots at the Crystal Palace last week, These plants were in themselves an object-lesson, showing to the fullest possible extent how the hand of man can assist Nature or *vice versa*. The group of daisies to which I allude above were exhibited by a firm which evidently makes a speciality of this class of plants. For they showed their ability in bringing to perfection what people are generally inclined to regard as common things, and this perfection reminded me that we should not look upon anything as "common."

What a number of useful plants we rid our gardens of, because in a good season for honey the bees happened to have no need for utilising them! But when we have an adverse honey season, and the weather prevents our bees from venturing far afield, they are, in consequence, at a loss for something to do near home. The bad effects of enforced idleness upon bees are well known. Indeed, nothing I know of in this connection makes such a bad impression as an idle and cross bee. Most of us have heard of the mischief that remains for "idle hands" (or shall I say a tail-end of idle bees?) "to do."

When planting the garden the tendency to overcrowd is very noticeable. I frequently tell bee-keepers that if they were to reduce their number of stocks by half they would have more of both pleasure and profit, because then their bee-keeping would be more thorough. So it is in the garden. We overcrowd till it is not only impossible for the

* Errata *Bee Plants* (4525, page 415, lines two and six from top) "strawberry shrub" should read "snowberry shrub." This is a printer's error, for which I may take a share of responsibility.—W. L.

plants to approach anything like perfection in growth, but the survival of the hardiest is only possible with an entire absence of the clothing of green foliage so noticeable with the specimen plants staged at the show to which I have referred to above. In fact, the results of the general overcrowding in gardens are mostly long, scraggy, leafless stalks, with a few small, imperfect flowers on the top.

Foul Brood.—The first case of this disease that has come under my notice of late was found in a skep owned by an old-style bee-keeper this autumn, and serves to show how serious it is possible for the consequences of ignorance to become. A friend of mine, a beginner in bee-keeping, discovered foul brood in his hives last spring, and after dealing with this he obtained permission to examine the hives in a number of small apiaries round him. He was also allowed to remove three colonies from the wall of a dwelling-house, but all were found to be healthy. Then, at the close of the season, he got leave to drive the bees from a number of skeps in these same small apiaries mentioned above, and at one place—the skeppist's living nearest to his own apiary—he found when driving a "cast" that the bees were affected with foul brood. Here, then, at last was an answer to the question I had previously been unable to assist him in by advice. The stock this skep had contained previous to "taking up" last year was affected with foul brood. After securing the bulk of the honey, the old skep, also the odd pieces of comb, were placed in the garden for the bees to remove or clean out the little honey left. My friend's bees helped to do the "cleaning," and took home more than they bargained for—viz., foul-brood; and probably it was said, "And serve 'em right, too!" However, the unfortunate "cast" was hived in the skep occupied by the diseased colony last year. But even this misfortune was not without its advantages, for it caused the combs and the old skep to be entirely destroyed, and as my friend succeeded by perseverance in freeing his own stocks from the disease, we may hope that foul-brood is cleansed out of that district.

I recently removed four colonies of bees from between the walls of a farm house, and these were perfectly healthy and beautifully clean, though I found foul-brood in the four hives in the adjoining apiary, but this was not of old standing.—Wm. Loveday, *Hatfield Heath, Harlow, Essex.*

TALL *V.* SQUARE SECTIONS.

[4536.] In the early part of the year, when the discussion on the above subject was closed, I think you promised to reopen it after experiments had been tried during summer. Now I am sure many of your readers have been looking for the result. Is not the time yet ripe for publication? Without having tried these new shape sections myself, I am greatly in favour of them from what I have seen during the past season. Previously, let me say, I was biassed against altering the standard—or 4½ in. by 4½ in. section—which had taken considerable time to attain. But if we have been "on the wrong tack" all this time, and can produce a section more pleasing to the eye, and which will therefore sell better, all the more reason why we should quickly adopt it.

I would ask, What are we aiming at? Is it to make sections of honey sell better, or to produce them quicker, or to get better appearance as regards pop-holes, sealing, &c.? The question for bee-keepers is, which section nearest attains the desideratum? As regards time required in production, that will always depend on the honey-flow, whichever section is used, but it is admitted on all hands that bees take better to shallow-frames than to sections, and the 4½ by 5 by 1⅞ comes nearer to the shallow-frame than does the 4½ by 4½ by 2. I consider the tall section far superior to the 4½ by 4½, and am eagerly looking for the verdict as to whether the bees get along with their work quicker than in the old ones. When my present stock of 4½ by 4½ is done, I shall use no other than the 4½ by 5 by 1⅞ no bee-way, with cleated hanging separators.

The sample I have before me, produced by the bees of Mr. William Dixon, of Leeds, is a splendid section, and I have no doubt they will "sell like hot cakes." The only drawback to it is its weight, which is 1 lb. 6 oz. —Darcy R. Grimshaw, *Crossgates, near Leeds, October* 20.

STRAY SWARMS.

"THE TALE OF A TUB."

[4537.] When looking through my Journal of October 17 I was struck with the article by Mr. Tennant (4527, page 415), entitled "Stray Swarms," and wondered how it was possible to build combs "nearly 11 ft. deep" in a cask "nearly 4 ft. high," when my eye chanced to drop on the words: "And one bee-keeper actually bought and had a stock in a washing tub." My first thought was to find the name of the writer, but when I saw it was the Hon. Sec. of the Thirsk and District B.K.A. I felt that I knew a thing or two about that wash-tub, and this made me think the writer's words, "some people seem to think anything will do for the bees," might be misleading. I do not know what a real live third-class expert would have done under the circumstances, but the plain facts of the case are these:—On June 1 this year I bought the apiary of a moorside bee-keeper, consisting of two bar-frame hives, one skep, and one "wash-tub," all teeming with bees, for none of them had yet swarmed. To be precise, the "wash-tub" had been shortened from an oblong to a square, and was inverted on a

kind of floorboard. Well, I packed them up and brought them home, a distance of eight miles, and next day we (my partner and myself) quietly began to operate on the "wash-tub," and with help of a screwdriver, a hammer and chisel, succeeded in removing the top which had originally been the *bottom* of the tub. My partner then went to work (for he does all the hive making) and fitted a platform to the tub to take ordinary lifts and racks, and so converting it into a superable hive, although to look at it reminded one of a Chinese pagoda. We next set on a rack of sections, made in the "W.B.C." style, and a fortnight later added another. On July 11 I removed nineteen well-finished sections, and on the 16th eighteen more, leaving the remainder of sections to be fully completed. On July 30 half the bees and queen were taken out and united to another stock and sent to the moors.

The remaining half reared a young queen, and on September 16 they were driven from the tub and put in a "W. B. C." hive on seven well-stocked combs, and the old combs were cut out and are now melted down, while the "tub" has done its last work, for my wife has used it for firewood.—H. F. GARNETT, *Well Apiary, Well, Bedale, Yorks, October* 19.

SOME SCOTTISH "NOTES."

[4538.] I have read with much interest the letters and notes appearing in the B.J., particularly the notes from the pen of "D. M. M., *Banff*." While I cannot claim to have had the same success, still I agree that the past season has been the best since Jubilee year for clover honey; but heather honey has not, in my experience, been an average one. From some ten hives I took on an average about twenty-four sections of heather honey, but last year I was better. "D. M. M." suggests discussion how best to work for larger returns of heather honey, and I hope his suggestion is not to be allowed to slip. It deserves attention for mutual benefit. In my case I have to send my bees seven miles to the heather, and cannot do so until I am sure that swarming has ceased. This year I did not get them away till August 3. At that time the heather was blooming pretty generally. I left them till September 3. Between these dates we had several thunderstorms and many foggy days, when the bees did nothing, and the want of continuity in gathering always tells against good sections and a good return. I do not see what methods I, and persons similarly situated, could adopt to increase the return of heather honey, unless to extract all clover honey from, say, two crates of sections for each hive. That might increase the return. Glad to hear some other suggestions.

Prices.—The prices for clover honey have fallen very low this season. In the beginning of the season I found ready market for clover honey at 10d. per section, but the price has fallen to 7d. For heather honey I got 11d. per section, and was offered that price for half a ton. With regard to bees paying, I am decidedly of opinion that where ordinary care and attention are given they pay well. Last winter I purchased several bar-frame hives with bees from 13s. 9d. to 15s. each, and some of these have given me eighty sections of honey, although, like many others, I suffered much from swarming.

I shall be glad if "D. M. M." would explain as to the "cooler" crate which he added to prevent swarming. Was it put on the top of the other racks, or next the brood nest? Did he use queen excluder? If we could lessen swarming there is no doubt bees would pay well and we would nearly double our returns. With thanks for your space.—C. G., *Stonehaven, N.B., October* 19.

Queries and Replies.

[2746.] *Buying Odd-size Store-combs.*—I have an opportunity of buying 100 shallow-frames of comb at 4d. each. The frames appear to be good and strong, but they are not the B.B.K.A. standard size. They have been kept in capital condition, and, of course, these store-combs would be very useful to me, as I purpose keeping bees on a larger scale. Would you advise me to buy same? Please reply through BEE JOURNAL.—H. G. WILLIAMS, *Bilston, October* 12.

REPLY.—It is merely a matter for yourself; if you choose to work store-combs that will not interchange with those generally used, no one but yourself will be inconvenienced. Personally we should make a bid for the combs—if clean and good—and make the best of them.

[2747.] *Winter Passages for Bees.*—I see a new device for "wintering" mentioned in B.B.J. of the 10th inst. by your correspondent "Will Hampton," on page 406. Now, why should we trouble ourselves to give the bees passages over or through the combs at all? I have never lost a stock because of the absence of them, and I do not believe your readers can assert that their bees have been starved with plenty of store in the hive. True, I have found them, in very small numbers, dead in the cluster, but should they not attribute the loss to want of numbers rather than want of food? It would be interesting to hear the experience of some of your readers.—JAS. HEDDING, *Sawston, Cambs, October* 16.

REPLY.—Unfortunately—or otherwise, as the case may be—we know for a fact that scores of stocks of bees die annually for lack of proper passage-ways over the combs in winter. It is quite common to hear of whole seams of bees perishing on one side of a hive, while on the other side—separated, maybe, by two or three combs only—the remaining bees are alive and healthy.

[2748.] *Sexing Eggs. — Wax Moth and Braula cœca.*—1. I should be glad if you could let me know through B.B.J. if the enclosed eggs are drone or worker? The queen appears to me to be the usual size, and some eggs on another comb are fairly regularly laid, but I know that she was a virgin about three weeks ago. 2. I should also like to know when combs in a store room will be safe from wax moth. 3. I have read that the Braula cœca dies off in winter. I had this pest in one hive last year, and this year it seemed to get into all my hives. I suppose the mild winter was not sufficient to kill it. Off one queen I took thirty-one of these insects; the same hive, by the way, that had them in 1900.—A. R. BARKER, *Harrow.*

REPLY.—1. If cells in comb contained eggs when despatched, they had dried up and disappeared when received, no trace of eggs remaining. On the other hand, it must not be supposed that we, or any one, can "sex" eggs by other than tedious microscopical work. 2. When "sulphured" before storing away, and carefully excluding the moth by good packing. 3. Ordinarily the *Braula* does die off in winter, but not always, as your case shows.

Bee Shows to Come.

October 23 to 30, at Olympia, Northumberland-road, Newcastle-on-Tyne.—Show of Honey in connection with the Newcastle-on-Tyne Grocers, Bakers, and Confectioners' Exhibition. Six open classes, and four confined to Northumberland, Cumberland, and Durham. Medals and cash prizes. Schedules from Jas. Waddell, Wooler, Northumberland. Entries close October 21.

November 14, at Town Hall, Ludlow.—Honey Show in connection with Exhibition of Chrysanthemum and Fruit Society. Two open classes for honey. Schedules from J. Palmer, Hon. Secretary, 17, Brandlane, Ludlow. Entries close November 5.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Seeds of Giant Canadian Balsam.*—Our Senior Editor who, as is known, is now staying in California, has expressed a wish to have a few seeds of the Giant Canadian Balsam. We will, therefore, be glad if any reader who grows the plant will be good enough to send on a few seeds to this office for forwarding to Mr. Cowan as above.

EDGAR WILSON (West Norwood).—*Combs Built on Glass.*—1. The inquiries we undertook to make go to prove that the gentleman whose name you mentioned—and who, being a member of the B.B.K.A. Council, bears some degree of authority—does not at all agree with your view on the matter referred to. Therefore your letter was, on the face of it, misleading. 2. Though the Editors—as you state—do not hold themselves responsible for the opinions expressed by contributors to the "Correspondence" column, they (the Editors) claim the right to publish only what will tend to the best interests of bee-keepers and the good of bee-keeping generally, and in doing this will always endeavour to guard their readers against what can do no good and might do harm.

H. N. (Sussex).—*Prize Winning in Duplicate and Free Advertising.*—We should have been very pleased to publish your letter, but it contains only personal reflections on individuals and their motives—to say nothing of unpleasant personalities which we could easily prove to be groundless—that it is unsuitable for publication.

NOVICE (Stourbridge).—*Making Soft Candy.*—You cannot have carefully "followed directions in 'Guide Book.'" Sample is hard as a stone, has not been boiled sufficiently, and not stirred continuously while cooling off.

H. VON BUTTEL-REEPEN (Freiburg im Breisgau, Germany).—*Cheshire's Book on Bee-Keeping.*—By giving your full address, as above, it is probable that some readers who have one or two second-hand copies of vol. i. of Cheshire's work will write you with regard to selling the same. This is all the help it is in our power to afford.

ADAM VALLANCE (Dunaskin).—*Insect Nomenclature.*—Your father is right, the insects are of the *Cicada* tribe.

Suspected Combs.

Special Notice to correspondents sending queries on "Foul brood."

We urgently request that all letters sent with samples of suspected comb be put outside *the box or tin containing the sample. Also that no more than a couple of square inches of comb be sent, taking care to neither crush the comb nor probe the cells before despatching.*

In urgent cases (and where possible) we undertake to "wire" replies as to F. B. if six stamps are sent to cover cost of telegram. All letters to be addressed "Editor, Bee Journal," not "Manager."

M. H. (Cuckfield).—Sample sent reveals a bad case of foul brood.

HAZLEWOOD (Birmingham).—We are sorry for unavoidable delay in reply, but your sample was a troublesome one. There is no foul brood in it, though the contents of one cell looked very suspicious before putting it under the microscope. The dead brood is chilled only.

J. A. B. (Dundee).—Both samples are affected with foul brood. Please pay attention as to "packing" in future. Samples not packed fit for post or for dealing with.

Honey Samples.

J. BERRY (Huddersfield). — Sample No. 1 "from Australia" is probably "pure" (we cannot say for certain without analysis), but quality is not good. The bottle marked No. 2—your own sample — was broken entirely through faulty packing, and contents in bottom of the tin in which it was sent. We cannot therefore judge its quality either for "show-bench" or any other purpose.

*** *Some Letters and Queries are unavoidably held over till next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Concluded from page* 423.)

Mr. Reid explained, with regard to the dark honey at the "Dairy Show," that there were some exhibits which tasted abominably, and the judges had to award the prize to the best of them, that is, to a honey that could at all events be eaten.

Mr. Perry asked whether the system of judging usually carried out was not largely responsible for syrup-feeding? The majority of light honeys had neither flavour nor aroma, but a medium honey generally had both; and he considered it a great mistake to give the prizes to the former class. He noticed, too, that the first prizes in the "medium" and also in the "dark" honey classes were awarded to samples that were only slightly different in colour, so that, practically, there might be said to be only two classes, namely, "light" and "dark" honey, and no "medium" colour at all. The majority of light-coloured honey was, in his (Mr. Perry's) opinion, partly syrup.

Mr. Reid contradicted the assumption that the judges were influenced solely by colour. He had already stated that it was his invariable custom to taste all exhibits. The finest white-clover honey was always very light in colour, and any bee-keeper possessing a delicate palate could very easily detect it from syrup.

Mr. Perry thought it would be safer to consider a "medium coloured" honey purer than any other. He considered there was a marked improvement in the judging of wax at the late Dairy Show.

Mr. Pugh thanked Mr. Reid for taking the trouble and precaution always to taste exhibits. He himself invariably did so when acting as judge.

The Chairman agreed with Mr. Reid that a judge should have a keen palate, and, speaking for himself as one who had earned a living by "tasting," he was well aware that some people did not possess that sense in the same perfection as others. He now asked those present to become "judges" of a shallow-frame of comb-honey, which came from the apiary of Mr. H. Sayer, junr., and was exhibited at the Surrey Bee-keepers' Show. [The sample was passed round for inspection.]

Mr. E. H. Taylor showed a collapsible glazed section-case, which could be sent out in the flat by parcel post, and was a convenience when transmitting several dozen at a time. A section could be easily put in and taken out without damaging the case, which was an improvement on many of those offered for sale. The price was 12s. per gross. Mr. Taylor also exhibited what was claimed to be an improvement on the "Porter Bee Escape." It was fitted with a glass top, so that when the springs became blocked (which they occasionally did) the obstacle was removed by shifting the glass, which was made to slide, back. If the old escape happened to be "blocked," it was necessary to remove it entirely from the board before the obstruction could be got rid of.

The Chairman next invited opinions on the new sized and shaped sections which had been exhibited at the Dairy Show.

Mr. Taylor gave his opinion that the increased surface-space of the new section was a great mistake. They required a larger piece of foundation and there was more "midrib" found in the comb when being partaken of. The cost of producing the section would thereby be increased, while it was doubtful if a higher price could be obtained for it, and thus the tendency was to make honey cheaper. Besides, the ordinary section-racks would have to be altered to suit the new conditions; and, finally, as there did not appear to be sufficient demand for the new ones, it was undesirable on all hands to endeavour to create any.

Mr. H. Edwards thought the larger sections looked nice, but he had not yet given them a sufficient trial to express an opinion on their merits. He hoped, however, that they would be well tested before a conclusion was arrived at. At present everything pointed strongly in favour of the rectangular section.

Two or three gentlemen having spoken against the innovation, as being undesirable, Mr. Reid said that he did not think the end and aim of bee-keeping was the staging of exhibits at shows, but the prosperity of it as an industry. The 2 lb. sections, he thought, worked better when placed horizontally in the hive. The chief difficulty was to transport the weight of such a large surface of honey without accidents when consigned to the care of porters. The risk on that score was always great.

Mr. Edwards agreed in this objection to the large surface sections, and said that he heard one of those dealing with the honey at the Agricultural Hall say, referring to the consignments of honey, "Only two smashes so far. Last year I had that pot full; this year I don't look like getting it half full!" Those remarks were significant.

The Chairman then called attention to the increase in the number of honey shows—in fact, there had been four important ones held in London alone within the space of four or five weeks. Whether such a large amount of "showing" in so short a time was good for the bee-industry he was rather doubtful. At any rate he thought there might be some variation in the character of the exhibits. It must be remembered that both the "Confectioners'" and "Grocers'" Exhibitions were essentially "trade" shows, and that tradesmen came to see what was new in their own line and also to do "business." Therefore, if bee-keepers

could vary their exhibits so as to come more into touch with the commercial aspect of apiculture, rather than of showing splendid specimens of honey, they would be doing more good to the industry as a whole. Would it not be possible to carry out this by reducing the fee from 2s. 6d. to 1s., and by only asking for three 1-lb. jars of honey, which could come by parcel post, instead of a dozen? He would also propose that the exhibitor should put on each sample-tin his name and address, the amount of honey he had in stock, and the price he was prepared to sell it at. This plan would help to enliven the honey market. Prizes might be offered for the best honey that could be sold at 7d. or 8d. per lb., or any other price, and even for imported produce if it was good.

Mr. Edwards agreed, and further said that education had increased the number of bee-keepers, but had done nothing to induce more people to eat honey; thus, owing to the augmented output, the price was gradually declining.

Mr. Durrant thought that a pamphlet might be written and freely advertised and circulated showing the advantages of honey consumption, especially in the winter time.

Mr. Reid recommended that, besides advertising in the B.J., which circulated only among bee-keepers, the latter should make their wares known in the confectioners' and other allied trades journals, by which they would be the most likely to secure a good market. Confectioners did not produce honey, but needed to buy it; therefore the utility of advertising in the trade papers they read was obvious. He had even seen honey advertised in the *Methodist Recorder*. In Surrey honey was scarce, and he knew that grocers had made 100 per cent. profit on the sale of it.

Mr. Edwards thought the Chairman's suggestion an excellent one. At the Dairy Show there were three trophies consisting of comb and run honey. Would it not have been better if these had represented products of the hive—for instance, comb, run and granulated honey, mead, vinegar, wax, and a couple of racks of sections; also confectionery made from honey? He had acted on this plan at a recent show, and was surprised at the interest stimulated thereby, the general public being ignorant of many of the products of the hive. He was sure that if they once tasted honey-vinegar they would never use the common commercial vinegar.

In reply to an inquiry, it was stated that a collection of recipes for utilising hive products could be obtained from the Rev. G. Bancks, of Green-street Green, Dartford. Another interrogator asked how it was possible to sell cakes made of honey while sugar was only 3d. per lb.

Mr. Hamlyn-Harris was of opinion that exhibits would be encouraged if none of the exhibitors were allowed to go home without some recognition of what they had staged. Many competitors at the "Grocers'," the "Dairy," and other shows who sent up very good produce indeed had to take a back place because their district could not provide honey as good as that from more favoured localities. More prizes or certificates of merit might be awarded. The latter would be a sufficient guarantee to purchasers. Germans and other foreigners were always ready to encourage competition by this means. Certificates cost little, but carried a good deal of weight. His idea was that this would be a good means of stimulating the market.

Mr. Reid said that every judge felt very sorry he could not give a dozen prizes instead of three or four; but there was no limit to "V.H.C." or "H.C.," and perhaps that power in some cases might be more liberally taken advantage of. Of course, if done to a very large extent the commendations would lose their value.

General Sir Stanley Edwards said the Dairy Show was the only one where an exhibitor was allowed to take more than one prize in one class, and he thought this privilege ought to be abolished. Two years ago there were three prizes taken in one class for products of the same apiary. It was idle to say that one sample was produced by the father, one by the mother, and another by the son, when they all came from the same apiary. That was only a subterfuge. The object of the association was to get exhibits from as many apiaries as possible, and there should be some law to ensure that.

The Secretary, B.B.K.A., said that there was a stipulation in the rules of the "Dairy Show" that the honey must be the property of the exhibitor and collected by his own bees. He was not aware there had been any infraction of that rule. The Dairy Association could not be blamed until it had been asked to alter its rules, which had not yet been done.

General Sir Stanley Edwards replied that all he wanted to guard against was the possibility of a bee-keeper nominally dividing up his apiary, and making exhibits in the names of members of his own family, when it was well known that the whole of the apiary was managed by himself. Under the present system he could send up samples in the name of his wife and his sons or daughters as well as in his own, and thus possibly secure all the prizes, which was obviously wrong.

Mr. Reid endorsed this view, but admitted there was great difficulty in determining whether and which competitors from one family should be excluded.

Mr. Edwards had taken three prizes in one class at the Dairy Show, but he would not feel at all aggrieved if prevented from taking a second after taking a first, and he was certainly in accord with the opinions expressed. The taking of three prizes in one class by one apiary was a discouragement to competitors.

The discussion was continued by Mr. Atkin, the Chairman, the Secretary, Mr. Reid, and

Mr. Edwards, the result being that the following resolution was moved, seconded, supported and carried unanimously:—"That the Council of the B.B.K.A. be asked to take steps to prevent products from one and the same apiary gaining more than one prize in any one class at the same show."

A vote of thanks to the Chairman for presiding brought the meeting to a close.

GLUCOSE AND INVERT SUGAR IN BEER.

OFFICIAL PROHIBITION.

[The following notice published in the *Gazette* (the official organ of the Government), is of interest to beekeepers, and might probably be applied to the admixture of honey with glucose.—EDS.]

Treasury, October 14.

Prohibition, under Section 5 of "The Customs and Inland Revenue Act, 1888," of the use in beer of certain substances.

Whereas it appears to the satisfaction of the Lords Commissioners of his Majesty's Treasury that glucose containing arsenic, and invert sugar containing arsenic, are substances which are capable of being used in the manufacture and preparation for sale of beer, and that the said substances are of a noxious and detrimental nature,

Now, the said Lords Commissioners, under the power conferred upon them by Section 5 of "The Customs and Inland Revenue Act, 1888," do hereby prohibit the use in the manufacture and preparation for sale of beer of any glucose or invert sugar containing arsenic.

Dated this 10th day of October, 1901.

N.B.—A penalty of £50 is imposed by the said Section for any breach of this prohibition.

W. H. FISHER,
H. T. ANSTRUTHER.

HONEY SHOW AT NEWCASTLE.

The third annual exhibition of honey, &c., in connection with the Northumberland and Durham Bee-keepers' Association was held on Saturday, October 12, in the Young Men's Christian Association Hall, Newcastle. It proved highly successful, there being a good display of honey of excellent quality and a large attendance of the public to see it. All the arrangements were well carried out by the secretary, Mr. James Waddell, of Wooler. After the judging, Professor Meek, of the College of Science, gave an interesting lecture on the natural history of the bee, and referred particularly to the improved methods of securing honey by the use of modern appliances. One of the most interesting features of the exhibition was an observatory hive, containing bees and their queen, shown by Mrs. Coote, of The Minories, Newcastle, and there were also on view some interesting photographs of apiaries. The entries, numbering ninety-seven, were very satisfactory indeed, all being of good quality.

Mr. T. Fenwick, Mr. W. Codling, and Mr. G. Gibson officiated as judges and made the following awards:—

Six 1-lb. Sections—1st and 2nd, James Waddell, Wooler; 3rd, John Scougall, Bedlington Colliery; v.h.c. and h.c., R. W. Patten, Rock, Alnwick.

Six 1-lb. Jars Extracted Honey.—1st, J. M. Balmbra, Alnwick; 2nd and 3rd, R. W. Patten; v.h.c., John Scougall; h.c., John Cuthbertson, Bedlington Station; c., J. T. Duncan, Amble.

Six 1-lb. Sections (Heather Honey).—1st, James Waddell; 2nd, J. M. Balmbra; 3rd and v.h.c., R. W. Patten; h.c., I. Thompson, Wooler; c., S. Dunn, Riding Mill.

Six 1-lb. Jars Extracted Heather Honey.—1st and 2nd, J. S. Dent, Burnhill; 3rd and h.c., J. M. Balmbra; v.h.c., R. W. Patten; c., T. Gutherson, Rothbury.

Single 1-lb. Section (Heather Honey).—1st, James Waddell; 2nd, E. Middlemas, Stamford, Alnwick; 3rd, I. Thompson; v.h.c., J. M. Balmbra; h.c., Robert Huggup, Glanton; c., John Cuthbertson.

Super of Heather Honey (above 12 lb.).—1st and 2nd, T. Gutherson; 3rd, J. R. Gutherson, Thropton.

Observatory Hive.—1st, Mrs. Coote, The Minories, Newcastle.

Bell-Glass Heather Honey (not under 10 lb.).—1st and 2nd, T. Gutherson; 3rd, J. Waddell.

Three 1-lb. Sections (Heather Honey).—1st, J. Waddell; 2nd, E. Middlemas; 3rd, J. L. Dent; v.h.c., Geo. Rochester, Shortley Bridge; h.c., Mrs. Coote; c., I. Jobson, Ilderton.

Single 1½-lb. Section (Heather Honey).—1st and 2nd, J. Waddell.

Small Super of Honey.—1st, J. R. Gutherson; 2nd, J. Waddell.

Beeswax.—1st, J. S. Dent; v.h.c., J. Waddel; h.c., T. Gutherson; c., Wm. Clark, Gateshead.—(*Communicated.*)

HONEY SHOW AT FRIOCKHEIM, N.B.

The annual Show of the Friockheim Horticultural Society was held in a large marquee on the outskirts of the town. Competition in the honey department was very keen; all the classes except heather honey were well represented and of a specially meritorious nature, the 1-lb. and 2-lb. sections being very fine.

Mr. R. Steele, Wormit, Dundee, officiated as judge, and the prize list was as under:—

Honey Trophy.—1st, Alex. Brown, Friockheim; 2nd, Robert Muoss, Friockheim; 3rd, Chas. Mitchell, Friockheim.

Six 2-lb. Sections (Flower Honey).—1st, Chas. Mitchell; 2nd, Jas. Rennie, Leysmill; 3rd, Alex. Brown.

Eight 1-lb. Sections (Flower Honey).—1st, John Low, Friockheim; 2nd, Wm. Cant, Guthrie; 3rd, Chas. Mitchell.

Two 2-lb. and Four 1-lb. Sections (Heather Honey).—1st, Chas. Mitchell.

Bell-Glass (Comb Honey).—1st, John Low; 2nd, Chas. Mitchell; 3rd, Alex. Brown.

Straw Super (not under 6 lb.).—1st, Chas. Mitchell; 2nd, Alex. Brown; 3rd, Wm. Cant.

Six lb. Extracted Honey in Show-Glass.—Equal 1st, Wm. Cant and Chas. Mitchell; 2nd, Alex. Brown; 3rd, Jas. Whyte, Friockheim.

Beeswax.—1st, Wm. Cant; 2nd, Alex. Brown; 3rd, Jas. Whyte.

Twelve 1-lb. Jars Extracted Honey.—1st, Wm. Cant; 2nd, Chas. Mitchell; 2rd, Alex. Brown.

Nest of Wild Bees (Working).—1st, Chas. Mitchell; 2nd, David Donaldson, Friockheim; 3rd, Jas. Rennie.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE NEW TALL SECTIONS.

MY YEAR'S EXPERIENCE WITH THEM.

[4539] Readers of the BEE JOURNAL will doubtless remember the interesting discussion which recently appeared in its pages on the subject of "Tall *v.* Square Sections." No doubt others, like myself, have given them a trial during the season now closed, and it will be of general interest to hear the results. Not much good, however, can come from hearing general statements as to the readiness or otherwise with which the bees seemed to take to them, or the rapidity with which they were completed; or even drawing precise conclusions by single comparisons with the square sections. For example, let us say a bee-keeper selects two stocks, "equally strong," and supers one, with "tall" and the other with "square" sections on the same day: he surely would not be justified in concluding that those first taken to by the bees, or soonest finished, were most suitable shape? I say this, 1st, because of the impossibility of saying with certainty that both stocks are *exactly equally strong;* and 2nd, because there are so many other variable conditions in different hives that when two stocks, seemingly "equal in strength," are simultaneously supered with the *same size and kind* of sections, they are seldom taken to on the same day, nor are the sections finished at the same time. It seems, therefore, obvious that only an extended series of trials will correctly answer the question as to which size is best.

In giving the results of my experiments with them I shall therefore confine myself to one point, namely, the *weight of sections.* I filled two racks (after making the necessary alteration) each with twenty-four in place of the usual twenty-one sections, and gave them to two different stocks of bees. From one of these hives no swarm issued. The queen was born in 1900, and the colony was in a very flourishing condition when supered. The sections were fitted with V-shaped "starters," and the bees built them out entirely with drone comb, not built well to the wood all round, there being too many "pop-holes." None of the twenty-four weighed as much as 1 lb. when finished. The sections in second rack were fitted with full sheets and placed above a newly-hived and very big swarm, also headed by a 1900 queen. This rack was taken off, completely filled, on the ninth day after being put on. It had therefore almost ideal conditions for being well done. All the sections in question were drawn out into worker comb and capped with that "pearly" capping which meets general preference. Six of them I exhibited in the class for six sections at the show of the Surrey B.K.A., held at the Crystal Palace, and they won a "highly commended." I mention this as showing that they were well and properly filled. Now the point I wish to emphasise is this: to my surprise, *not one of these sections weighed a full pound.* I say this because the square—or 4¼ in. by 4¼ in.—sections equally well filled are usually well over 16 oz. in weight. In fact, the first three dozen square ones which I disposed of, selected quite at random from those which I had graded as *first-class,* scaled just over 40 lb.

The actual weights of the six "highly-commended" tall sections were as follows:—15·2 oz., 15·1 oz., 15·1 oz., 14·8 oz., 14·6 oz., 13·7 oz.; total, 88·5 oz., or 5 lb. 8½ oz. There was thus a deficit of 7½ oz. on the six sections.

There is, however, a slight "asset" to be taken into account, owing to difference in the weight of *wood* in the two forms of section. I found that six 4¼-in. by 4¼-in. sections (four bee-way) when empty weighed 5·28 oz., while six of the *tall* ones (also four bee-way) weighed only 4·33 oz.—that is to say, in six of the former there is almost exactly 1 oz. more *wood* than in six of the latter; but even so, the tall sections are still unpardonably of "short weight."

It cannot fairly be attributed to accident, or mere coincidence, that of forty-eight "new-shape" sections which I used *not a single one weighed a full pound,* when by far the greater proportion of my 4¼-in. by 4¼-in. or square ones weighed well *over* 1 lb. The conclusion, therefore, is that these new sections are either not quite tall enough or else are a trifle too thin.

I see from the report of the "Dairy Show" in the BEE JOURNAL (October 17, page 413) that there was a special class for "Twelve 1-lb. sections, *other than 4¼ in. by 4¼ in.,*"

and that the first prize was taken by the Rev. R. M. Lamb, who, in your columns, so ably championed the "new-shape" section in the discussion referred to. It would be of considerable interest to hear from him and also from others who sent sections of this form to that show what were the actual weights of the sections exhibited, and what percentage of the tall sections scaled 16 oz.

Just a word upon the æsthetic side of the question. Here, I admit, that my vote is strongly in favour of the tall sections. I think they look far more pleasing to the eye than the square shape, and also look nicer upon the table. Moreover, when placed side by side I think most people would suppose the tall ones were the heavier, for the additional ¼-in. in height seems to be more appreciated by the eye than the slight decrease in thickness. Of course, so long as they are actually of *less* weight than the square ones buyers would naturally sacrifice any *æsthetic* preference in favour of the heavier section. Indeed, as a matter of fact, I found by experience that this was the case. Two dozen tall sections I sent as a third instalment to a tradesman who was taking a large quantity from me, pointing out to him that they were "a new departure as to shape, but that they were not quite up to the 1-lb. weight"; and I asked him to note whether his customers took them in preference to the others? When next I saw my customer he said that buyers at once noticed the difference in shape, and immediately *asked to have them weighed*. Then, on finding that the tall sections weighed less than the old shape or 4¼-in. ones, they naturally rejected them in favour of the heavier ones. It seems evident, therefore, that unless the new section is made of such a size as to weigh a full pound when reasonably well finished, it would be worse than useless to attempt to put them on the market.—G. S. Newth, *Wallington, Surrey.*

COMMENTS ON CURRENT TOPICS.

[4540.] *Chill October.*—The month this year has belied its name and has been a delightful time, although in the opening days we had a slight foretaste of winter, the hilltops being covered with a white coat. Bees have since been having a lively time of it, and have had daily outings, prowling about neighbouring hives, spying if they could discover any signs of weakness. One of my queens failed to mate, so on the 22nd I got a driven lot from Hunts and joined them on, thus securing, I hope, a powerful colony next season. It was a risky thing to do, perhaps, so late in the season, but they came out of the swarm-box as lively as crickets and no signs of dead bees.

Bees and Bagpipes.—I always feel interested in any literature where I find complimentary reference to the bees, and, when a double compliment to another favourite is paid at the same time, the interest is added to. While reading Robert Buchanan lately I found this gem praising the bees and the bagpipes, and I set it down as worthy of being submitted to a wider audience. The extract is from "The Marriage of Shon Maclean":—

"Like the whistling of birds, like the *humming of bees*,
Like the sough of the south wind in the trees,
Like the singing of angels, the playing of shawms,
Like the ocean itself, with its storms and its calms,
Were the strains of Shon, when, with cheeks aflame,
He blew a blast thro' the pipes of fame."

Cleaning up Unfinished Sections.—Great care is necessary, when this is being done, to secure that the operation does not set up robbing. If they are set on the hive above the escape board, or placed outside the dummy, they are generally cleared, though frequently it takes some time. I prefer, however, to do it outside, as the operation is generally more expeditiously performed there. I place a section or two in a hive which would be the better of supplementary stores, and, when a few bees cluster on them, they are removed gently to a shady corner some distance from the hives, in the afternoon of a fine day. The adhering bees, when they have gorged themselves, make direct for home, and convey the intelligence to their fellows that they have discovered a gold mine. Eager to profit by it, others join them and work assiduously, with the result that the sections are quickly only dry comb.

Dissimilar Bees.—It is well known that bees of all ages accompany swarms, and when these are forwarded some distance, especially if the weather is warm and sultry, they assume a considerable diversity of hue and appearance. A friend informed me that he must have got a "mongrel lot," as he was able to pick out at least three separate kinds of bees, differing in size, shape, and colour. I explained the circumstance as follows: First, young bees just able to fly would look smaller and greyer than the others, because their pubescence was not then fully developed; second, the fully matured bees would appear in normal condition, much as they do in general; third, old bees would naturally look darker, more shiny, longer, and thinner than the average bee, and these points would all be intensified by the close and oppressive atmosphere breathed during the time the mass of bees was confined in the swarming-box, while they were all highly gorged with honey.

Hybrids "worse than Wasps."—My predilections and experience lead me to keep as near as possible to the pure blacks, but a friend some years ago had read such glowing accounts of a certain kind of hybrids that he determined to invest in a queen and show his

neighbours how to get bees and honey. He got bees the first year certainly and felt glad and buoyant. In April and May that hive shot ahead of all rivals, but one fine May morning he found his queen outside *dead*. When supers were being taken off he requisitioned the aid of every bee-man daring enough to face the "demons." Next year every living creature near had to keep at a respectable distance until they became a veritable nuisance and danger. As he graphically described the scene, it seemed at times to be a little foretaste of pandemonium!

Honey Sales.—With the advent of November I will not have a single section for sale. All from heather sold at 1s. each wholesale, and found a ready clearance at the price. The blend of "clover and heather" went rapidly at 10d. per section, and the pure clover languidly at 6d. up to 10d.—averaging rather under 8d. each. In regard to weight of sections, I saw a correspondent remarked lately that "if all sections were weighed, many fine totals would shrink rapidly." Here is an interesting answer: One firm which weighs my honey, and pays by weight, returned 210 sections as scaling 217 lb.—D. M. M., *Banff*.

THE DAIRY SHOW, 1901.

DUPLICATE PRIZE WINNING.

[4541.] In reply to Mr. W. Woodley's remarks (4530, page 424), I beg to say it is quite correct that I have exhibited at the Dairy Show in duplicate and won two prizes in one class; and—as Mr. Woodley says—quite as recently as that of 1900, at which show a very old friend said to me, "Well, Seymour, I do not agree with these double entries," to which I agreed and replied, "It is not fair to others, and I will not make two entries in one class again." I therefore beg to inform friend Woodley and exhibitors generally, that I do *not* intend making two entries in one class at any show at which I may be exhibitor in the future.

One thing I can honestly say: I have always made entries in my own name, and never allowed "the good wife" to enter an exhibit in hers, especially giving a different address, as I see friend Woodley has done. This fact is duly recorded in the B.B.J. (see page 412), so I do no harm in repeating it, where I read in class for twelve jars light-coloured extracted honey, "3rd, Wm. Woodley, Beedon, Newbury; 4th, A. M. Woodley, World's End, Newbury." To my mind this makes it look as if the exhibits came from two distinct exhibitors living in different villages. Of course, this may be quite correct and right, but it reminds me of a married man saying to his wife, "What's yours is mine, and what's mine is my own."

Mr. Woodley seems in some doubt about my trophies, and infers that I only had one trophy in London. I wish to inform him that I entered one trophy at the Dairy and another at the "Palace Show," and had two trophies in London at the same time. Does Mr. W. think I should have been wasting valuable time in London the day before the "Dairy" if I had only small exhibits to stage? I went to the Agricultural Hall fully intending to stage my exhibit in Trophy Class, and refused to do so as a protest to his double entries in that class.—H. W. Seymour, *Henley-on-Thames*.

JUDGING HEATHER HONEY.

THE DAIRY SHOW.

[4542.] Your correspondent, Mr. Jonathan Shaw (4533, page 426), is evidently a bad loser. I consider that any one who cannot take an adverse verdict with equanimity should refrain from trying their luck on the show-bench, for all that do *must* meet with disappointment sometimes. I have been an occasional exhibitor for some years and, win or lose, I have never yet had the temerity to question the judges' decision. But perhaps I am so constituted that a slight disappointment does not so easily upset me, and I also make it a rule not to "count my chickens before they are hatched."

Mr. Shaw seemed to think that because he was first at the "Grocers'" he would be first at the "Dairy Show," but, unfortunately, he had calculated without the winning exhibit at the "Confectioners'." True, not quite so many exhibits were staged at the latter, but the editorial comments in the B.B.J. the following week showed that they were all good. Mr. Shaw thinks the first was not, and does not hesitate to say so.

I should not have troubled to reply to our friend if he had not implied that the 1st and also the 2nd prize exhibits were not pure heather honey, *like his*. I have not seen the 2nd prize exhibit, neither do I know Mr. Sproston, but I do know that Cannock Chase and neighbourhood is capable of producing heather honey second to none, and this is not the first time that Staffordshire has supplied the winning exhibits at the Dairy Show.—Thomas Richards, *Church Gresley, Burton-on-Trent*.

SCOTCH BEE-KEEPING CRITICISED.

[4543.] Referring to the report in last week's B.J. of the *Conversazione*, I fear that august body, the B.B.K.A., would not be favourably impressed with Scotch bee-keeping, as given before them by Mr. R. Hamlyn-Harris, on page 422. Cases of improper feeding of bees, to one of which he refers, are fortunately rare in Scotland, notwithstanding the fact that another speaker, Mr. Reid, has actually "spotted" another bee-keeper who had the audacity to send sugar-fed exhibits to the Crystal Palace Show. Such procedure certainly ought to be put down with a firm hand. It is to be hoped that Mr. Hamlyn-Harris, when at the Dumfries show, brought

this matter before the Bee-Keepers' Association there, and, if so, the said Association ought at once to take steps to expose such malpractices. On one occasion, over twenty years ago, if I remember rightly, the old Caledonian Bee-Keepers' Association took action against a Glasgow grocer for selling what was said to be pure Californian honey. On analysis the sample was found to be largely composed of glucose, and so the grocer referred to was fined. Since then I have only seen two, or at most three, glaring instances where bees had been fed on sugar-syrup to produce, so-called, honey. It is also satisfactory to know that such fraudulent practices are not confined to Scotland.

Mr. Hamlyn-Harris is, however, a little unfair, I think, in his remarks when he says that "Scotland was, he thought, rather an unprofitable country for bee-keeping except for the heather season." I should like to ask what experience he has had of Scotch bee-keeping to make this assertion? The district in which he was staying, and in which he found the fraudulent bee-keeping grocer, is almost entirely given up to sheep-farming. Therefore from a bee-man's point of view this is not by any means an ideal place in which to locate. If Mr. Hamlyn-Harris had taken the trouble he could have found districts not 100 miles from where he was staying, that will compare with the best in England or any other country in Europe as a bee-keeper's paradise. In these districts may be seen the best and largest dairy-farms in Britain, as well as farms famed for beef-raising. Several English bee-keepers who this year visited the districts to which I refer said they never in their lives saw such an enormous mass of bloom on the white clover.

I have no desire to "boom" Scotland as being a profitable country for bees, in case Mr. Hamlyn-Harris might decide to come and reside amongst us, and thus "share in the spoils," but I would just like to whisper in his ear that there are a few who are content to remain this side the border, so far as honey-raising is concerned. The prices which they get annually for large quantities of "pure Scotch honey" in London are, I venture to say, never reached by any beekeeper in England, Germany, or any other honey-producing country in the known world.—*William McNally, Glenluce, Wigtownshire.*

STRAY SWARMS.

[4544.] I was amused that your correspondent, Mr. H. F. Garnett, in last week's issue (4537, page 428) should wonder how it was possible to build combs "nearly 11 ft. deep," in a cask "nearly 4 ft. high." The thing is, on the face of it, absurd, and I should have thought your correspondent would have given a "real live third-class expert," as he chooses to call me, credit for knowing that such a possibility was outside the range of practical politics. What I said in my copy, and which the Editor could substantiate if it were necessary, was that the combs referred to would be "nearly 3 ft. deep." The printer's error, however, was so apparent, that I did not consider the mistake worth correcting. I think, after citing instances in which bees had been put into the most grotesque and unsuitable dwellings, I was quite justified in making the statement that "some people seem to think anything will do for the bees," and in my opinion, from your correspondent's remarks, it is quite evident he has not grasped the meaning of the article in question.—R. T. TENNANT, *Thirsk, October* 26.

[After inspecting Mr. Tennant's MS., we are constrained to admit that the "slip" was mainly attributable to indistinct writing in "copy," and as we have sent this on, we have no doubt he will readily agree with us after inspection.—EDS.]

BEGINNING BEE-KEEPING.

STARTING ON RIGHT LINES.

[4545.] I thank your Essex correspondent, Mr. Loveday (4526, page 415), for his helpful suggestions as to commencing bee-keeping on "right lines."

Perhaps I may repeat what I asked in my first letter on page 402, viz., about how often is it necessary to examine the internal working of a hive during the time its bees are "honey-making" for the season? In the first place, time is valuable during summer evenings—I spend much of my leisure amongst growing plants; and secondly, I have no desire to disturb the bees more than necessary. On the other hand, I do not wish to neglect them, so that any pests may get a foothold.

If, therefore, Mr. Loveday would give his opinion as to how often the hives should be examined, or looked after, I could tell whether I had the necessary time to devote to bee-keeping in order to be "successful." I wish to succeed, and even to excel, if taken up at all.—S. WALIAN.

THE SEASON'S BEE-WORK.

A BEGINNER'S REPORT.

[4546.] Noticing that in almost every issue of your valuable journal is an account of the season's work of beginners in bee-keeping, and having myself been accorded some valuable help through its columns, I take it not as a pleasure alone, but as a duty we "young fry" owe to its editors to let them know each ending season how we have fared under their guidance, whether we have fared well or not, and it is pleasing to note the successes recorded from time to time shown by the large "takes" of honey mentioned. Much, of course, depends upon the particular neighbourhood for a good yield of surplus, but in my short experience I have found that so much

more depends upon the management of the hives and their manipulation. We owe thanks to the "Guide Book" for help in this direction, and, taking it all round, I should think it has been a fair season. Here we depend principally upon the white clover, fruit blossom, and heather. I commenced in 1899, when, after studying the book referred to, I purchased three swarms in skeps; one proved to be queenless, and in consequence soon became defunct. The other two I successfully transferred into "W.B.C." frame-hives, according to your frequently advised plan, the following spring. Then seeing another opportunity of adding to my stock, I bargained for two additional strong colonies in frame-hives, with numerous appliances, from a clergyman who was giving up bees. I got them safely to my home, six miles away, in my dog-cart. So you see I had now four stocks (rather more than you advise beginners to tackle at first) to begin with, all in good condition by spring, 1900. I decided to work for extracted honey, so I set about the labour of preparing for the season, and got my boxes ready for the shallow-frames (which I made myself) filled with foundation, and watched for the time when I could pop them on the hives as soon as the bees and bee-forage were ready. The result was I secured 157 lb. of extracted honey, all of which I sold at 1s. per lb. This present season I have been still more successful, for by stimulative feeding in early spring I had the hives "boiling over" with bees by the time the honey flow began, and I had to make more boxes of shallow-frames for holding surplus. I also was fortunate in capturing two stray swarms, which I united in a frame-hive, and I thus had five colonies, from which I have taken 276 lb. surplus extracted honey. I also ventured on sending an exhibit to our County-town show last August, and succeeded in taking a "second" (bronze medal) of the Shropshire B.K.A, which I have joined. So far I have had but little difficulty in disposing of my honey by the time the season is over. All things considered, then, I think I am bordering on success in the craft, although I find there is yet much to be learned. I have not so far had a single swarm issue from any of the hives. I owe my success to the "Guide Book," the B.B.J., a keen eye and careful manipulating, and invariably attending to matters before the moment they are required. With best wishes and thanks for your kind help.—W. H. Buck, *Dawley, Salop.*

MACHINE-MADE HONEY-JARS.

[1547.] Wishing to give this new kind of honey-jar a trial, I ordered one gross. Judge of my surprise, a few days later, to see the railway man tip a barrel off his cart and roll it up the entry towards my house, inquiring for me. From the rough handling it got I fully expected to find at least half the bottles broken, but, owing entirely to the careful packing, there was not a single breakage, and only one jar useless through the cap not fitting. They were packed by Messrs. Abbott Bros.—A. F. Crosby, *Kidderminster.*

DAIRY SHOW AWARDS.

A CORRECTION.

[1548.] Allow me to make a correction by adding to the "list of awards" published on page 413. In addition to the 1st prize and silver medal duly credited to me, awarded to my exhibit of queen-raising appurtenances, I was fortunate enough to also gain the 2nd prize in the same class for my new "Registered" swarm-catcher and self-hiver.—H. Edwards, *Shrubs Hill, Sunningdale, Berks, October* 28.

(Several interesting articles are in type and will appear next week.)

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Rucher Belge (Belgium).—*Making Hydromel or Mead.*—The production of various "hydromels" has made but little progress during the last five years; indeed, it is now very difficult to produce hydromel of good quality, owing to the proved fact that the honey gathered is generally inferior, and the strong taste of honey is disliked by many people. In order to give a natural "bouquet" to our hydromel, it is needful to use a strong ferment, that being the only way to deal with it. A *résumé* of the best method of producing good hydromel is given below:—First, the size of your barrel must determine the quantity of honey used, the greatest nicety and cleanliness being necessary with barrel and all other things used. A rapid fermentation is desirable, and for this purpose to 100 quarts of hydromel 4 lb. of raisins should be used. Boil 4 lb. of honey in 4 quarts of water; skim, and leave to cool down to 30 deg. *Centigrade.* Add the raisins, and cover with a clean cloth in a warm place. Stir three or four times a day. In four days the fermentation should be in full activity. Then dissolve your honey in warm water, and when quite melted pour it into the barrel containing the fermented liquid. Leave a space of 4 in., and cork with a damp cloth folded thick. In two to three weeks the vinous fermentation will be complete, and the hydromel must then be drawn off from the dregs.

To heighten fermentation 5 gr. of tartaric acid may be added to the yeast, and 60 gr. placed in the barrel—or 10 lb. of barley or wheat which has already begun to germinate. After the winter the hydromel should be bottled off.

Revue Internationale d'Apiculture (Switzerland).—In order to judge of the advance

made in apiculture during the past century it is of interest to look into an old book (published in 1790) written by the Abbé della Rocca, Vicar General of Syra, entitled, "A Complete Treatise on Bees, with Practical Method of Managing Them as Practised in Syra, Island of the Archipelago." The author insists on the value of the lime and the white melilotus as bee-pasture, and also mentions borage and white clover. No mention, however, is made of sainfoin nor of the acacia, but he names many plants supposed to be useful, but which his experience has proved to be otherwise.

Della Rocca also tells his readers that in the islands of the Archipelago, if a poor man could get together twenty or thirty hives, he could, with the little he could gain by country labour added, support his family in comfort. Alluding to the great mortality among bees, the author attributes much of it to cold and severe frosts. At the same time he advocates leaving the hives in the open during the winter, and allowing the cold to penetrate, while shading them from bright light and noise.

Della Rocca invented two hives to be made from a kind of baked clay, which were to be placed in a niche in a wall, &c., and covered round with straw; these were certainly better than the old skeps, but still very rudimentary and crude in construction. Still more so was his general knowledge of bees. He thought they could travel across an arm of the sea eighteen miles wide in search of food, and that they could be attracted by the scent of honey at a distance of twelve to fifteen miles; that the worker-bees lived three or four years; that bees collect and bring home wax on their thighs as they do pollen; that certain flowers contain it, &c. The chapters on the diseases of bees are perhaps the most interesting. He says:—"Of all that has been said or written about the maladies of bees, nothing is so dangerous as a disease which attacked ours in the isle of Syra from 1777 to 1780 and destroyed the greater part of our hives." He then goes on to say:—"It broke out in the brood-nest, and the combs were filled with matter entirely corrupt instead of with nymphs and young bees. As long as the cells continued sealed there was no sign of disease, but if the comb were broken open a blackish, offensive fluid flowed out, carrying infection to the other hives.

"The bees themselves seemed active as usual, but the population decreased from day to day. Sometimes a part of a hive would escape the malady and a few healthy bees would hatch out, but too few to make up for daily losses. We tried several ways of curing the bees from this scourge, but without success. At last it was realised that the disease was epidemic, and the whole contents of every infected hive was burnt and the hives purified by fire; if any hives were saved it was through this treatment."

Queries and Replies.

[2749.] *Wintering Bees.—"Guide Book" Teaching.*—I began bee-keeping this year, and I have Mr. Cowan's book, but somehow I cannot find instructions on many of the simplest little things, which, I suppose, every one who is a bee-keeper knows; but I have no one to help me in my difficulties. In the village here the people only use skeps, and do not understand frame-hives. I see in your paper that you answer questions to quite beginners, so that I hope you will not mind answering mine. I will number them, because it will probably be more convenient for you. 1. How much covering do the bees need for winter? At present there are on the top of frames two pieces of thin carpet, very porous, which were supplied with the hives; also two pieces of wood, which fit in the top and half cover the hive. 2. I have four hives, three are doing well, they were only driven this autumn, and I commenced to feed at once; they have had four doses of sugar-syrup made as directed in Mr. Cowan's book. There are about six frames with bees clustering on them. In the fourth hive, the bees were driven in from a box hive, but they all left it and were found clustering on a geranium about 20 yards away a week afterwards; at least about one quarter of them, the rest I suppose were dead. We shook them into a little skep and then into the hive. They only cluster on two frames, but they have half filled one frame with syrup and there is a little brood at the bottom. I have put a frame of honey in this hive from another which had plenty. Must I kill the queen and unite the bees with another hive? It seems such a pity because the queen is a good one, I suppose. Could not I feed with candy, or would not they survive the winter? 3. Is it absolutely necessary to take away all unsealed honey?—H. NESTE GIRDLESTONE, *Dorchester, October* 24.

REPLY.—Notwithstanding the fact of your not being able to find instructions on the simplest little things in the "Guide Book," we will venture to answer the several queries enumerated by referring to the book in question as conveying the best reply we can give: 1. For coverings to frames in winter, see page 162, beginning 15 lines from top, where it reads: "Over all place the quilts or a chaff cushion. A bottomless box, size of the hive top, and 4 in. deep, having a piece of calico tacked on the bottom and filled with chaff, or a shallow-frame super makes a very good cover." See also the illustration on page 40 showing hive prepared for wintering bees. 2. *Dealing with Driven Bees in Autumn.*—Read what is stated on page 142 with regard to this subject. 3. No, it is not absolute, but wintering bees on unsealed food is apt to cause dysentery (*vide* page 161). Two or three lots of driven bees joined together in a hive con-

taining frames of comb will, if liberally fed after hiving, generally make a strong colony." To which we add: Any departure from the hints laid down here is risky; and the further they are deviated from the greater the risk. Thus, it is never safe to rely on driven bees being able to build new combs in autumn and store them with sealed food before cold weather sets in. Therefore, in having three of your four hives "doing well" you are very fortunate so far, but they have not passed safely through the winter yet. The other driven lot after deserting the hive—and being lost for a week—will, we fear, do no good, but you might usefully exercise your skill in trying to winter the bees.

[2750.] *Re-queening Stocks.*—1. I should be grateful to know, through the B.B.J., whether you would advise me to re-queen such of my stocks of bees as are now headed by queens which must be three years old? In asking this question, I must say they have done well this season, and I also know it is too late to think of re-queening so late as this, but can it be successfully done in the spring of next year, or would it be better to defer it until the autumn of 1902, and let them take their chance for next year's honey season? 2. What is the mode of remelting candy, which through age has gone hard and brittle, so that it may be used up again?—W. H. Buck, *Dawley, Salop, October* 21.

Reply.—1. We strongly advise your letting all the queens now heading the respective colonies referred to "take their chance," as you say. At all events, let them show what condition the brood-nest promises with regard to building-up in time for the honey flow of next year. You cannot say for certain that the queens "must be three years old," because bees so often re-queen themselves—by deposing a failing or aged queen—that it is always unsafe to state age. 2. Old candy should be used only for syrup-making in spring, just as sugar is used, by stirring it into the liquid while on the fire.

[2751.] *Transferring Bees from Sugar-boxes to Frame-hives.*—Many thanks for "specimen copy" of B.B.J. sent at my request. I am now taking it in, and am thinking of commencing bee-keeping. I therefore ask your help on the following:—1. I can buy stocks of bees in sugar-boxes very cheaply (10*s.* each) by purchasing now, but I want to know if I can keep them through the winter, and about March next place whole box on the top-bars of frame-hives, and let bees transfer themselves? 2. Is this a wise course to take, and how can I feed them if short of stores? Also what amount of honey must they have to safely winter? 3. Can I safely examine the bees on a fine day this autumn? If I purchase, I shall protect each box with a kind of outer casing to enable the bees to withstand the cold and wet better. I may say that to-day the bees are working well in most of the boxes.—J. L. Saxby, *Cleveland, Som., October* 25.

Reply.—1. The bees, if well supplied with food, will winter as well in sugar-boxes as elsewhere, and, if managed properly, wil transfer themselves to frame-hives as stated. 2. Yes, provided the bees are healthy and well stored, otherwise they are not "cheap" at price stated. Cut a feed-hole in top and place a 2-lb. cake of soft candy overhead if feeding is required. 3. Only by raising the boxes from floorboards and examining from below. It will need the use of a bee-smoker to enable you to do this.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. C. (Kent).—*Dry-Sugar Feeding for Bees.*—The fact of this method of feeding bees having practically fallen into disuse should suffice to show that it is not suitable for the purpose—in other words, it has been tried and found wanting; therefore, it will serve no useful purpose to print "cuttings" from non-technical papers on the subject of feeding bees, or to give any further opinion than that practical and personal experience makes us fully concur in the general verdict.

Edgar Wilson (West Norwood).—*Combs Built on Glass.*—Since you are good enough to consider the course we took was a right one, we must ask you to believe that we have good reason for declining to publish further communications on the subject just now.

I. T. R. (Anglesey).—*Sawdust as Packing for Double-walled Hives.*—For many reasons we much prefer crumpled up old newspapers to sawdust, for packing space between hives and outer cases. Chaff is better than sawdust, but both are "littery" and inconvenient to our mind. Newspapers, on the other hand, are cleanly, easily removed, and effective.

B. E. Buckwell (Bedford Park, W.).—*Candy-making.*—The sample is of good colour and not hard, but it is too dry and "crumbly" (to coin a word) in texture. It entirely lacks the "buttery" consistence of well-made bee-candy, which latter resembles more the fondant sugar in the sweets known as "chocolate creams."

R. North (Kirkby Lonsdale).—*Seeds of Giant Canadian Balsam.*—Much obliged for seeds sent, in reply to our request last week. They will be forwarded to Mr. Cowan in due course.

H. B. (Halifax).—*Suspected Comb.*—We find only "chilled brood" in comb sent; no disease. But as there were no unsealed larvæ in sample, it is not easy to judge with regard to the actual condition. Perhaps a sample with unsealed grubs might help us.

Editorial, Notices, &c.

TESTIMONIAL TO MR. HOOKER.

The committee in connection with the above met on the 31st ult. and conferred upon the progress made and the further steps to be taken to carry the project to a successful result. Letters were read from subscribers expressing very kindly sentiments and wishes for a successful result from which the following are selected :—

"I have the greatest respect for Mr. Hooker and am a great admirer of his determined and straightforward work in the bee world.'

"I think your proposed testimonial quite the right thing and I wish it every success."

"What I should especially like to see is a *long* list to gladden our old friend's heart."

"I am pleased to hear of the proposed testimonial. I know of no one more worthy."

"I sincerely hope you will get enough funds to make the affair a handsome one."

The committee feel that these represent the feelings which are widely entertained towards Mr. Hooker, and that there are many who would respond to their appeal if they were acquainted with the movement which has been started. Much as they desire that the gift should be equally worthy of the givers as of the receiver, yet they feel that a long and representative list of names of British bee-keepers appended to an illuminated address, which it is intended shall accompany the gift, would be of higher value and interest to the recipient. It is hoped, therefore, that none may feel they are deterred from giving because their contribution cannot be a large one.

The following are the names of subscribers added since the publication of the first list :—

T. W. Cowan.
T. I. Weston.
Ernest Walker.
S. Atkin.
Anthony Bayley.
H. W. Seymour.
W. P. Meadows.
G. Wells.
E. H. Young.
Lee & Son.
R. C. Blundell.

Subscriptions may be sent to the Editors of the BRITISH BEE JOURNAL, 17, King William-street, Strand, W.C.; or to myself.—JESSE GARRATT, Hon. Secretary, *Mcopham, Kent.*

SUGAR FOR BEE-FOOD.

The following letter—which we reprint by request—appeared in a recent issue of the *Bazaar*, and will be found interesting to bee-keepers.—[EDS. B.B.J.]

"Sir,—Adverting to your remarks on my letter on 'Sugar for Bees,' in your issue of to-day, I should like to say I generally agree with them. I am informed by a medical man that many of the illnesses treated in the London hospitals are consequent upon constipation caused by the use of beet sugar in either its raw or refined condition, or in the preparation of sweets and other popular forms of nutriment or delicacy which the public largely consume, whilst sugar-cane sugar, on the contrary, is a laxative.

"The only difference in Porto Rico and Barbadoes sugar is one of manufacture, not otherwise of quality; this is a simple matter, and many estates in Barbadoes make as good sugar as any in Porto Rico.

"The sugar, treacle, and golden syrup you refer to are abominations, being, as you say, the refuse of beet and the slaughter-houses. The molasses of beet are unfit for human consumption, unless *very chemically* treated, when they become mere chemical substances.

"The molasses of Barbadoes sugar, like the sugar itself, are most valuable food without any chemical ingredient.

"There is no difficulty in obtaining Barbadoes sugar in the London market, but the difficulty is, the public will buy only the cheap Continental crystals or 'British' refined beet.

"Much sugar is sold as 'British refined,' 'Pure sugar,' and under other designations, that is merely foreign beet treated in England, and thus the public are deceived into imagining that they are getting British West India, or sugar-cane sugar. I always make use of the term sugar-cane sugar, as chemists call 'sugar-cane sugar' and 'beet' '*cane*,' and this helps in the deception practised on the public, and therefore any cane sugar cannot be converted into winter food for bees, but any *sugar-cane sugar* can.—C. R. HARRIS (*Captain R.N.*)."

BIOLOGY OF THE HONEY BEE.

ITS DEVELOPMENT DURING THE NINETEENTH CENTURY.

By R. Hamlyn-Harris, F.R.M.S., F.Z.S., F.E.S., &c.

In no period of history has the progress been so marked, and in all fields of science have such glorious results been obtained, which have completely revolutionised our and many other industries. If we glance back to years long since past and gone, a most astonishing difference meets our eye. Man had availed himself of the services of the bee—and we are able to trace it through the various periods of time, back to many years before Christ; yet for centuries comparatively little progress had been made. We read of bee-keeping forming part of the industries of the ancient Egyptians and peoples of India, while there are indications of the existence of bees and a rude art of bee-keeping as practised by the Arabians, Greeks, and Romans, also of

the Teutonic and Sclavonic people, but it was not until the end of the eighteenth century and the commencement of the nineteenth that real light dawned, and wider interest began to be displayed.

It would be easy to fill many a book by relating all we even know in the present day regarding the ancient arts of this our favourite industry; how some of the classic writers immortalised the honey bee in their various writings, how the Egytian bee has been found in the earliest hieroglyphics handed down to us, dating back to 1400 years B.C., carrying us back to the building of the Pyramids; no doubt symbolic of the idea of a people governed by a sovereign; how the representation of a hive has been found on an ancient tomb at Thebes, showing a somewhat more advanced condition at this early age. How, about the year 3 B.C., the Greeks in the Ionian Isles practised in some rude form the art of queen-rearing.

Then, on the practical side of bee-keeping, we could describe the various uses to which honey was put in years gone by; thus it is recorded that about the year 500 B.C. honey—poured upon the Tyrian purple—was discovered at Susa by Alexander the Great in a perfectly fresh condition 200 years after. How the bodies of many illustrious men, including that of Alexander the Great, were, as mentioned by Statius, embalmed in honey; how about 449 A.D. hydromel—made from honey—was the first fermented liquor known to the natives of Britain, and how in the courts of the ancient heirs to the throne the "mead-maker" was the eleventh person in dignity. These few historical facts, picked out of many, afford an insight into the customs of the period and the important part that even in remote days the bee and its product played in national and domestic economy.

About Shakespeare's time (A.D. 1600) there began a new epoch of bee-keeping, for with the appearance of Alexander de Montfort about the year 1646, the craft was greatly strengthened. Much ignorance of the subject no doubt prevailed at this time, but a deeper insight into the natural history of the honey-bee was daily gaining ground in spite of Montford's erroneous idea that the bee was a "honey-fly." It is interesting to record that he estimated the writers on bees at the time as numbering from 500 to 600.

In the early years of the next century the ability displayed, and the beneficial results of the works of Reaumer and Swammerdam, can never be forgotten.

However flourishing and prosperous apiculture may seem to have been in those days, we cannot overlook the fact that bee-keeping can only flourish in times of peace, as the present war in South Africa has demonstrated, and it leaves no doubt that the troubled times of the Reformation, together with the Thirty Years' War and many others, contributed in no small degree to the partial and temporary ruin of the industry.

Up to this time the knowledge of the ways and habits of bees was confined to very few, mainly, we suppose, on account of their stinging propensities, and this feeling seems to be almost universal. Nevertheless, the general interest in the subject continued, and no wonder need be felt that the celebrated bee-master Wildman, who kept a colony of bees on a London house-top as far back as 1772, having once grasped the real secret in handling bees, should collect all London and the country round to witness his wonderful feats on horseback with live bees under many and varied circumstances.

With the publication of François Huber's book "Nouvelles Observations sur les Abeilles" (an English version of which appeared in print in 1806) a new era began to dawn, for Huber, by his investigations and researches, did more to promote the science of bee-keeping than all his predecessors had effected before him. His remarkable observations and discoveries are not only of the greatest importance in themselves but wonderful in the manner in which they were made, for, though well on in years and blind, this distinguished man displayed all the energy of youth and with a perseverance seldom witnessed in one so afflicted. With the able assistance of his wife, niece, and manservant he made experiments and discoveries which have marked this as an epoch in apiculture destined to remain for all time.

It has been said of Huber:—"Whatever hesitation may arise in our minds from the fact of Huber's discoveries not being the result of personal observation, no doubt can reasonably remain as to such of them as have been repeatedly confirmed and verified by subsequent observers, and this has actually taken place and holds strictly true in regard to the most important of them. His discoveries respecting the impregnation of the queen bee, the consequences of retarded impregnation, the power possessed by the working bees of converting worker larva into a queen, a fact though not originally discovered by Huber, yet until his decisive experiments and illustrations never entirely known or credited; the origin of wax (discovered by a Swiss peasant); the manner of its elaboration; the nature of propolis; the mode of constructing of combs and cells and of ventilating or renovating the vitiated atmosphere of the hives; these and a variety of other particulars of inferior moment have almost all been repeatedly verified by succeeding observers."

Shortly after the death of Huber in 1831, Dzierzon entered upon his investigations, and through his observant habits discovered the theory known in the present day as that of Parthenogenesis. Dzierzon for some months afterwards continued to express doubts as to the real facts deducible from his observations on this particular subject, but it was not until Von Siebold and Leukart under-

took to experiment and prove if possible the accuracy of Dzierzon's theory that real light dawned; Baron von Berlepsh placing his large and well-equipped apiary at the disposal of Von Siebold.

It has been said by a well-known German zoologist that, "To enrich our scientific treasury through new discoveries is glorious, but not the less important and serviceable to correct those errors which are continually finding their way into science and to lay them bare and open before the face of all." The importance of this was realised by myself when, nearly three years ago, I endeavoured to expose and lay open the errors sought to be introduced by the hypothesis reared upon an insecure foundation by one Dickel, of Darmstadt in Germany. My views, expressed in your pages some time back, will no doubt be fresh in the minds of some readers, when I drew attention to the errors afloat.

About a year had to elapse before I was personally able to confirm the correctness of Dzierzon's theory—papers having appeared in various scientific journals. Only recently an article appeared from the pen of Professor Weissman, in which he confirms my views as already stated, and shows Dickel's hypothesis to be quite erroneous and incorrect. Great stress must also be laid upon the fact that the material for research was supplied by Dickel himself.

(*Conclusion in our next issue.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[4549.] The past fortnight of June-like weather has given ample time for finishing up all such bee-work as packing for winter, providing winter passage-ways over combs, and providing quilts large enough and warm enough to prevent upward draught through brood-chambers. A record of each stock should also be made on a card affixed inside the hive-roof for reference when needed. See also that all roofs are rainproof; a sheet of thin zinc, well nailed under the eaves of the roof, is the best and cheapest way of keeping out wet. The tidy, painstaking bee-keeper will, by this time, have cleared the weeds from under and around his hives, thus allowing the sun and wind to dry the legs down to the pieces of slate on which they stand. All this makes for durability, especially if advantage has been taken to give them a coat of paint. Chaff-cushions are an excellent addition to winter wraps; they retain warmth in the cluster of bees, besides keeping the quilts close down on the frames. Finally, a large cake of candy may be given to any hive which lacks a full supply of natural stores, or where feeding was neglected in September.

I was sorry to read (on page 422) the remarks about sections filled with sugar-syrup being exhibited at the Crystal Palace show. And I would ask, can it be possible that well-known bee-keepers would send such stuff to an English honey show? Until it has been proved by analysis, I must, as a brother bee-keeper, give the alleged offender "the benefit of the doubt." This matter cannot be allowed to rest. What we want are *facts*. Was the exhibit "impounded" by the rules, or was it returned to the exhibitor?

The new tall section also came in for notice at the Conversazione, and as these have been staged side by side with the 4¼ by 4¼ one at the Dairy Show, an opportunity for comparison was afforded. I only saw one fairly good dozen tall sections there, viz., the 1st prize ones shown by the Rev. R. M. Lamb. What price these new-shape sections bring in the market I know not, but it was hinted that "a low one" would be taken if a purchaser could be found. My own experience of the new shape resulted in securing only part even of second quality, while the bulk were third grade only. They were also longer in filling than 4¼ by 4¼, although put on one of my strongest stocks, and on what I considered my best sealing strain of bees. I used the four-bee-way section and slotted dividers (not fences), which give free passage-ways in all directions. Certainly the racks held twenty-four sections instead of twenty-one, and this may have delayed the "filling" somewhat. There are other points against the tall section, such as extra cost, size, expense of new racks and dividers. Alterations will also be needed in our hives, which are made to take section-racks of certain sizes, to say nothing of altering "lifts," &c.—all entailing expense and labour. The glass for glazing will also cost more, as will the "cases" for those who use them. Packing-cases of a new size will be needed, bringing more trouble, and after all these items of expense the new sections will not fetch more than the present one, so that, in my opinion, they are opposed to the best interests of bee-keepers.

Prize-Winning in Duplicate.—Like Mr. Temblett (4531, page 426), when writing of the "grab-all" principle (though probably he is referring to myself) I, too, can say that had I exhibited at all the shows for which schedules were sent to me my wins would have been about doubled even with my ordinary proportion of success. Mr. Seymour refers again to the subject of duplicate prize-winning, but I need only say if those who bring this "stalking horse" out every year will take the trouble to read up the catalogues

of past Dairy Shows they will see that the custom of making duplicate entries and duplicate prize-taking according to merit is in conformity with the rules of the Dairy Farmers' Association. This fact makes one wonder if there is any contention in other sections of the show on this point? Regarding the address of Mrs. Woodley and also my own address as given in your pages, both are correct. I work my Beedon apiary (consisting of some seventy hives (entirely myself). Our post office is "Beedon," our post town "Newbury." My good wife does a great part of the practical bee-work of every kind at the "World's End" apiary, so that Mrs. Woodley is well within her right as "a bee-keeper" in exhibiting the produce of her bees. As regards Mr. Seymour's non-staging of his trophy, I did not say I saw the honey at the Dairy Show. It was no doubt in London held ready for the show which offered the best chance to win, and I congratulate him on his sagacity and on his success at the Crystal Palace. I also told him at the "Grocers'" that I was showing (and Mrs. W. as well) at "Dairy," so that he knew before he began "to waste valuable time" that we were both exhibiting.—W. WOODLEY, *Beedon, Newbury.*

BEES IN THE ISLE OF MAN.

A BEE-MAN'S HOLIDAY IN MANXLAND.

[4550.] Towards the end of August I left my native heath for a week in the Isle of Man, partly to see some of those with whom we have had business relations for many years, but chiefly on pleasure bent. Who would deny the busy toiler a trip to the fair isle, even though the little "worker" over whom bee-men rule has no such item in its short span of life while "improving each shining hour"?

Having heard of the beauties of the island, of its "up-to-dateness" as a holiday resort; of its inexpensive boarding tariffs, &c., it was easy to decide on the trip, and that decision was largely brought about by medium of Mr. Horsley's well-known advertisement in the B.B.J. offering "comfortable apartments to brother bee-keepers."

Stepping on board the smart steamer *Tynwald* at Ardrossan, a run of six and a-half hours or so brought us alongside of the pier at Douglas. The entrance to the bay has been, rightly as I think, described as "like that of Naples." We soon were "comfortable" at Merridale House and felt the warmth of our welcome agree with the style of the offer; showing what a freemasonry of bee-keeping exists between members of the craft.

Our friend and host has his bees over on the "mainland" yet, but hopes to ship them over beside himself soon. He showed us his expert's certificate, &c., and "waxed" warm on all matters relating to the apiary; the methods employed there, south and north, of our small Kingdom. It gives a chap zest and inspiration to live for a week in this hive of industry with its "hum" of human voices and evening melodies, &c., for the piano and such like instruments are there to gladden and uplift the spirits.

The first morning on the island found us heading for Subby, or the north. The electric railway provides a quick and grand run up, skirting the rough coast line. The weather was "ideal," and the pace kept all parties cool. We soon found out Mr. Kelly, a veteran in the craft, with his 120 or so hives in full swing and his *tons* of honey in the ripening stage, bottled and in bulk.

It is not often one sees a row of sixty hives in a line. Mr. Kelly has a home and an "out apiary," as our American cousins have it. But as the bees provide almost his sole hobby, he has premises and all sorts of appliances on a large scale, showing "method" in all arrangements. In the act of sampling, &c., our aged friend (for he is well on in the allotted span), showed how thoroughly and cleanly he did the necessary work. He studies the nature of the product, and allows a certain "ripening" process to go on before covering down his honey jars or tins. All thin honey is given back to the bees as food in the fall. We noted his washing tubs and mechanical devices for washing glass honey-jars, and saw, too, that, like our friends the Yankees, he rids his jars of splints, or loose parts, by rattling a pound or so of shot in each—certainly a novel and good idea.

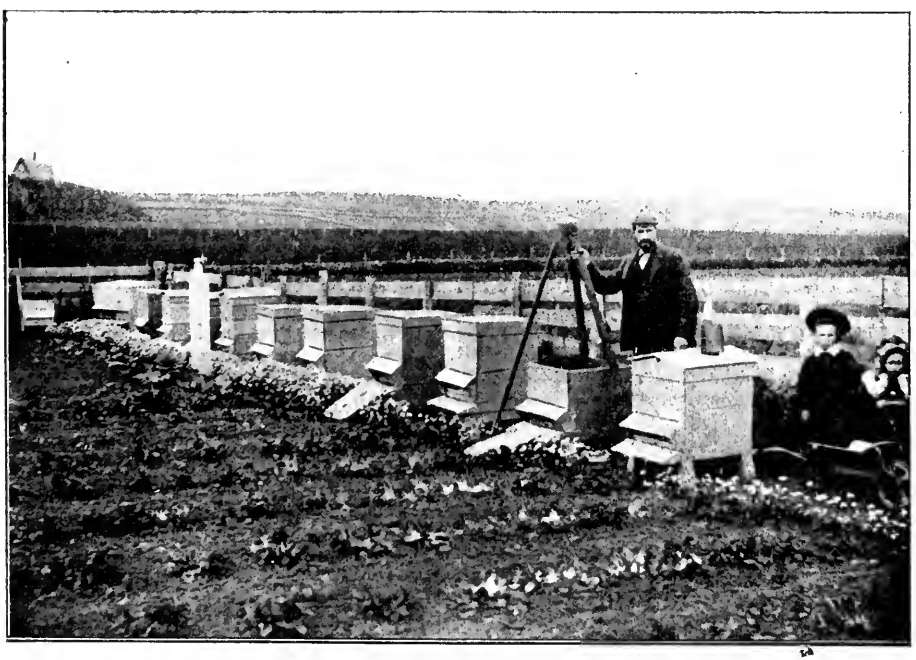
(*Continued on page* 446)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

The neat and orderly little apiary seen on the next page belongs to another reader (a worthy Scotchman, too) who began by keeping bees in straw skeps. But, along with so many of his northern countrymen, Mr. Rennie was not long in finding out for himself—helped, no doubt, by current bee-literature—that the advantages of the frame-hive and modern methods of management were so obvious as to leave no doubt in his mind. He, therefore, promptly decided that his skeps "must go" to make room for the "up-to-date" frame-hive. It is also apparent that our friend is of a mechanical turn of mind, as witness the useful tripod arrangement for weighing the hives. Judging by the landscape which forms the background in photo, one would suppose the far northern heather hills to be in sight and within reach of the bees; but this is not so, for we read that white clover is the only bee-forage within bee-flight, necessitating the expense and labour of a journey to the moors, which ran away with the profit. Mr. Rennie sends us the following particulars relating to his bee-experiences, which speak for themselves. He says:—"I commenced bee-keeping in 1890 by purchasing a small cast for

5s., and as I had no knowledge whatever about bees at that time, I kept them in skeps for some years on the old-fashioned principles of managing hives. However, I chanced to hear of your JOURNAL; then about Mr. Cowan's 'Bee-Keepers' Guide-Book,' and with the help of these I soon learned how to manage bees in hives with movable frames. After some consideration in deciding what hive to use, I got a carpenter to make me a 'W.B.C.' hive from an illustration which appeared in your monthly, the *Record*, some years ago. Then, during the following slack season, when not busy at my own trade, I made two or three similar hives the same year; and the following year a few more, and so on until I have now replaced all the straw skeps with



MR. W. B. RENNIE'S APIARY, ROSEHEARTY, FRASERBURGH, ABERDEENSHIRE.

frame-hives—twelve of them in all—as seen in the photo. Although only twelve hives are seen they hold fourteen colonies, all being on the 'W.B.C.' plan. I rather prefer a flat roof, covered with zinc, to the usual shape seen in the nearest hive, and so most of them are made so. The topmost hive in the row is, as will be noticed, a 'Wells,' but it has done nothing great for me so far. The very small double-hive to left of the 'Wells' is also a double-queened one, holding two small lots of bees—each having its own queen—for preserving the latter for use in spring should any colony be found queenless.

"The square pillar, painted white near top of the row of hives is a water-fountain for the bees' use. I may also explain that the 'contrivance' I am holding—resembling a photo camera-stand—is for weighing the hives and contents in autumn. It consists of three 'battens' hinged to a circular block of wood fitted with an iron hook through its centre. From this hook is suspended a spring balance—two pieces of wood, 15 in. long, with a piece of sheet iron secured to each end to form three sides of a square and fit under the legs of body-box for lifting by. Then a cord from each corner attached to the spring-balance draws the battens closer together and lifts the body-box gently upwards from its floorboard and you at once see the weight; thus you can judge how stores stand for winter.

"The hives face due south and are located about one mile from the sea, with no protection from the north-east winds but the wooden fence run behind them. The winter and spring here is also very trying for the bees when returning home, and cause me to lose a good few every winter.

"I get about one swarm in every three years, and am glad to say I have never yet known what foul brood is, although I use preventatives against it all the same. White clover is the only source of honey here. I sent four of my hives to the heather, but found it did not pay. This year, 1901, has been a record one for honey and swarms; it is indeed the best bee season since I started. My average is 84lb. each from my eight colonies—spring count. In the middle of June I divided my three best stocks to fill four empty hives I had

on hand. The best of these divided lots gave me 119 lb. of surplus, and my best stock 132 lb. My two weakest ones yielded 24 lb. each. One swarm I put back again to let the bees clean out the combs they made in straw skeps. From the other one I took 25 lb. of honey. The two last named lots and one other stock were native Scotch bees; the rest were an English strain, which is far superior to ours, I think. In former years I had always sold out my honey before the winter, but this year there rather seems to be a 'honey glut.' It is, however, of good quality and will keep. My prices are 9d. for extracted and 10d. for sections. I had 126 sections.

"I conclude by wishing good luck to all in the craft, and prosperous years to come."

CORRESPONDENCE.

(*Continued from page* 444)

Like most loyal bee-men, after "doing" the bees and poultry we repaired to his "sanctum" and did ample justice to the viands on his table. By the way, he knowingly reminded me not to be like the one of whom the poet said :—

An' fe'th he'll prent it.

I fear I have disregarded his disposition to avoid publicity, but I know he will forgive me. We retraced our steps to Ramsey for the car home, feeling sorry to part with so amiable a bee-man as Mr. Kelly. I was pleased to meet his helper in bee-work, Mr. Brooke, on whom, henceforth, the management of affairs will chiefly devolve. Getting around in Douglas itself we noticed that honey — although so plentiful in the island — was conspicuous by its absence in the principal windows. True, some was shown here and there well displayed, but considering the holiday resort and the fact some nice honey is suited for "gifting," we thought it might have had a better show. We believe it will stand more pushing, this honey business. If we do not "stir up," the enormous inflow of the foreign product will swamp the better, for we note some firms are actually bottling up *tons* of "selected honey" for which they pay thirty odd shillings per hundredweight!—a fact. Our stay was all too short to see the many we would have liked to meet, and also to scale all the mountains and descend the valleys amid abundance of wild flowers and bell heather, which, by the way, yields a honey we Scotch people consider not in it with the "rale" heather. We note, however, a "blend," or a dash of heather and flower honey, meets with a fair demand on the island.

If it was within the usual practice in contributing, we might enlarge on the pleasure we had of seeing the good behaviour of the people on pleasure bent. True there is the saloon and all such things to attract, but the absence of drunkenness and such flagrant evils was striking and pleasing. Long may the island flourish and maintain her reputation as the record holder of the biggest "take" of honey from a single colony in the British Isles.—DAVID RAITT, *Blairgowrie, N.B., October* 23.

NEW INVENTIONS IN APPLIANCES.

[4551.] Reverting to your report of the B.B.K.A. conversazione in the B.B.J. (page 411), I notice in first par, after names of those present, comes an allusion to an appliance incorrectly described by your reporter as "a travelling crate for removing frames," &c., &c. I also note that the appliance was "rather unfavourably criticised," Mr. Meadows venturing the opinion that "the inventor was not a practical bee-keeper, and that his invention would find no acceptance among apiculturists."

May I ask Mr. Meadows if he means to say that no invention—satisfactory or otherwise to the general bee-keeper—would be accepted if the inventor was not a practical bee-keeper?

Not being an appliance dealer, I do not wish to unduly obtrude my invention on public notice. Nor do I quarrel with the opinion expressed at the conversazione, but I cannot help quoting the words of our Editor (who also happened to be one of the judges), in writing of the exhibits at the "Royal" Show, *vide* page 272 of B.B.J. for July 11 last, where we read as follows :—

"A high commend was given to what may be called a *multum in parvo* for bee-keepers. Very ingenious in combining a comb-box for use when removing and returning frames after extracting, a travelling-box for swarms; a nucleus hive, and a make-shift hive for temporarily housing a small stock of bees in."

The above rather more generous words of encouragement to an earnest, would-be bee-keeper referred to the appliance in question, and may be taken for what they are worth, but were much appreciated at the time by THE INVENTOR, *October* 28.

DUPLICATE PRIZE-WINNING.

[4552.] When two old friends and competitors on the show-bench like Messrs. Seymour and Woodley commence a wordy warfare, the chances are that the friendship of the past is likely to suffer, and as an old mutual friend of both I venture to say a word in the hope that the "your another" line of argument will be discontinued, and that the question of duplicate prize-winning will be discussed on its merits, for our friend Seymour admits that his conversion dates from only about a year ago, and if the resolution adopted at the meeting referred to on page 433 is carried out by the British B.K.A. the matter will be settled in the most satisfactory manner. I see no objection to any exhibitor duplicating his exhibit to what ex-

tent he pleases if he can "only take one prize," and it sometimes happens that it is a great help to a show to get duplicate exhibits when entries are scarce, as I have no doubt most secretaries have found them to be at times, and have been glad to fall back on friends for help in this respect.

I am truly sorry to see the personal tone of the remarks not only of Mr. Seymour, but also of General Sir Stanley Edwards at the Conversazione, who again, as on a previous occasion, made an attack not so much on a system as on an individual. I have not exhibited at the Dairy Show for some years, and I am not acquainted with the rules of the same, but the point is, do the rules admit of duplicate exhibits from one individual or of members of the same family? If so, there is no occasion for the use of the offensive term, "subterfuge," to such exhibitors. If the rule prohibits such, they should have been disqualified. I hope that after the matter has been discussed in your columns the British B.K.A. will take it up and settle it finally.

Lace Edging.—I was only able to pay a flying visit to the Dairy Show, and I was struck, as on former visits, with the number of exhibits disqualified apparently on account of the insufficient glass surface showing. Now, Sir, this, to my mind, is a more important question than the former, and I, among many others, would like to see the restriction abolished, as the punishment of disqualification is too great for the crime. I am speaking from practical experience when I say that it is next to impossible to glaze a dozen sections without one or more exceeding the limit laid down, and I fully believe, from my own observation, that several of the winning exhibits at the Dairy Show did so, and were liable to disqualification if they had been objected to. This rule is like the employment of a steam hammer to crush a fly, and it is not fair to the judges, who have often to cut out meritorious exhibits which, apart from this, are worthy of consideration, and, to my mind, they are the people to deal with any excess of edging in this respect by withholding points as any competent judge would and should do; but when an exhibitor has gone to the expense of entering, packing, and sending an exhibit, I do think it should be allowed to compete even if its edging does exceed the limit. For my part, I would place no limit, and leave the matter entirely in the hands of the judges. I know of no other show in which such restriction exists, such as poultry, cat, dog, rabbit, &c. As long as they are entered in their proper class, and have not been "faked," they are allowed to compete, however long or short their tail, or head, or legs are; and if it were argued the excess of edging can be in any way construed as "faking," I say it must be a very incompetent judge who is not able to deal with it, and in the vast majority of cases there is not the slightest intention on the part of the exhibitor, but is rather on account of his want of skill. We in Berkshire have hitherto excluded this rule from our schedules with the most satisfactory results, for it has been felt that our judges' hands ought not to be tied in this respect, and it is very rarely that an exhibit is disqualified.

I have not written on this subject from the point of view of an injured party, as I have never suffered the penalty of disqualification on this or any other ground, but I do so because I believe it is a hindrance to the success of a show, for it must be that so large a proportion of disqualifications must place a restriction on the number of future exhibits. —A. D. Woodley, *Hillcrest, Caversham, Reading, October* 31.

JUDGING AT THE DAIRY SHOW.

[4553.] Referring to my letter (4533, page 426) in your last issue, and your reply saying I "put myself out of court at once in regard to the judges," I confess I did, but nevertheless I was told so, but on verifying it I discovered my error, having got hold of the "Confectioners" report instead of the "Grocers," and not noticing heading at the time.

As a visitor to the Dairy Show I still maintain that the judging was bad, although I wish to show no disrespect to the judges. They may be very good men, but I fear they have had very little experience in judging heather honey in jars, or they would not have given the decision they did, bearing in mind that my jars, which took first honours at the Grocers' Show, received no recognition of any kind. It will also be seen that, as you promise (on page 424) to report the Newcastle Show last week, the same jars received 1st honours, which is further evidence of their quality.—Jonathan Shaw, *Sandsend, Yorks.*

TALL *V.* SQUARE SECTIONS.

[4554.] I have given the new tall section a fair trial, and with me the result has not been satisfactory. The new sections were put on strong colonies at the time honey was coming in fast, but the bees did not fill them so quickly nor so well as they did the ordinary 4¼ by 4¼ in. in use at the same time. The tall section, however, looks larger, and has a nice appearance, and I expected my shop customers would prefer them; but no—every one preferred the old-style sections—"thick ones," as my customers called them. A few of the leading bee-keepers I have met at shows who have given the tall section a trial have the same objection to them as myself, viz., they take longer time in filling, and are not so well filled as the 4¼ by 4¼ in. ones. I shall therefore stick to the old-style section until something comes along likely to suit my customers better.—Anthony Bayley, *Stourbridge, October* 28.

MANUFACTURED HONEY (?)

[4555.] Under the heading, "Profits that Make you Gasp," the enclosed cutting from *Pearson's Weekly* purports to give us *full information* how to make honey (?) from "glycerine and treacle!" The price of the former being 60s. per cwt. in ton lots, while genuine bee-produce of this country can be had at 45s. to 56s., foreign at even as low as 28s. I would ask, Who can believe a word about other matters after reading such rubbish as this?—D. ANTHONY, *Cardiff*.

[The cutting sent reads as follows:—"Much of the fine, clear honey which is sold is a fraud, yielding a big profit. It consists of a special mixture of glycerine and treacle, and can be bought in the comb, which is also a manufactured article of the same class."]

GLASS QUILTS (?) FOR BEES.

[4556.] For the last four years I have used glass quilts (thanks to one of your correspondents in the B.B J.), and am likely to continue doing so as long as I have the pleasure of keeping bees.

The glass is in three pieces, each 16 in. by 5 in., laid not directly on top of the frames (brood and super), but on four strips of wood, each about 2 in. wide and $\frac{3}{16}$ in. thick, laid close to the sides of the hive, thereby giving the bees a free passage all over the tops of the frames.

The side strips are cut into three pieces (the frames hang at right-angles to the entrance to the hive); the front and back ones are left full length; the pieces of glass are laid parallel with the frames.

The advantage of this arrangement is, I can, by simply removing a piece of the glass together with the two short pieces of wood on which it rests, one at either end, lift the two or three frames immediately underneath without disturbing the other part of the hive.

Another advantage of the glass is, when the bees are ready for supering, they build comb along the top of the bars and on to the glass, which is seen at once by simply turning back the pieces of blanket laid on the top of the glass.

Four years' experience with the glass has taught me three things. First, for winter (or summer) passage it is first-rate. Second, it permits of the examination of the hive with the least possible disturbance of the inmates; and thirdly, the notice they give when the time has come for supering.—W. C. H., *South Devon*.

PRODUCTION OF HEATHER HONEY.

[4557.] Now that the busy workers have ceased from toiling, and the weary are at rest, I should very much like to see a discussion started in your columns on the best means of producing heather sections. I am not in a position myself to say much upon the subject, having only within the last few years taken up the fascinating hobby of bee-keeping; but as far as my experience goes, I think that partly-drawn-out sections and warm packing are invaluable helps. I work largely in the clover season for extracted honey, and consequently have not so many of the former to give the bees for the heather flow, but I extract any partly-filled and imperfect sections and distribute them equally among the racks for the moors, which so far I have found to answer admirably. I use the "W.B.C." section-rack exclusively, and adopt the plan of placing the empty combs towards the sides of each rack, as the bees will usually take to the full sheets of foundation in the centre without any such bait, and by doing this I imagine I steal a march, as it were, upon the bees. Then I make the racks as warm as I can, by packing the space between them and the sides of the hive with newspaper, and above the quilts I place a full newspaper, tucked well in at the sides, which I consider makes everything as snug as it is possible to do. The weather at the moors being so uncertain, I only put a single rack on each hive, and as I am not so far away, I journey to the moors two or three times, and on removing the full sections, substitute with empty ones filled with full sheets of foundation, which, I fancy, is better than having two racks and running the risk of being possessed at the end of the season of a lot of partly-completed sections. On three of my best hives this season I tried the experiment of placing double racks, with excellent results; but the fact of the heather season in this district being the best known for the last few years was, of course, all in their favour. With thirty-two hives at the moors, my average yield was seventeen good sections—not so good, you will observe, as some of the reports you have had. If I had known that the season would be so favourable, it would have been better had I given double racks to more of the hives. One question it would be interesting to have some light upon is, whether from long experience it has been proved that a larger yield can be got from double racks, rather than from single ones.—R. T. TENNANT, *Thirsk, Yorks, November* 2.

DUPLICATE ENTRIES AT SHOWS.

[4558.] I am glad to see this subject is being discussed in the JOURNAL, as it crops up at nearly all shows and in most societies. I have always thought it unfair for one exhibitor to be able to carry off more than one prize in one class, and the only way to avoid it is to establish a general rule that only one entry be made in any one class. I was present when the same question came up in connection with the Devon Bee-keepers' Association, and after much discussion we decided to make a rule to that effect.

Then, again, as to the prizes not being all

awarded, I think that a mistake, especially in such an important class as that for Honey Trophies, the preparing and studying of which involves so much time and expense.

Another thing I consider to be extremely unfair, viz., allowing, a man, his wife, and his son each and all to make a separate entry in the same class with the product of the self-same apiary. I have always been of an opinion that honey to be shown should be the produce of the person who shows it.

There is also another thing that cannot be too strongly condemned. I refer to what was mentioned at the conversazione in the report in B.B.J.—the feeding of bees and getting sugar syrup stored either in the form of section or extracted honey for sale. Such malpractices are calculated to do the honey trade no end of mischief, besides being a downright fraud. I myself have seen some very suspicious-looking sections this season, beautiful to look at, and in colour lighter than I can get by working honestly, and offering for "6s. a dozen, carriage paid." All beekeepers should do their utmost to put down this practice, be it done either ignorantly or otherwise ; and I think that all county Bee Associations should instruct their experts to report any such cases coming under their notice. I know I shall do so.—A. Godsland, *Bee Expert, Bovey Tracey, Devon, October* 27.

THE WORK OF BEE ASSOCIATIONS.

[4559.] With reference to the remarks of Mr. Hamlyn-Harris at the recent conversazione of the British Bee-Keepers' Association, as to the advantage of the extending of the Association's work all through the United Kingdom, a very striking example was given in the judging of the honey exhibits at the show held in Kilmarnock last week under the auspices of the Ayrshire Agricultural Association, and which was advertised in the Journal. The entries in the honey class amounted to 126, and came from several districts in Scotland, and also from across the Border, so that the show could hardly be classed as a small affair.

The first prize in class for six 1-lb. sections of heather honey was given to sections of which several had paper edging fully an *eighth of an inch deeper* than the schedule of the show stipulated, and on the Judge's attention being drawn to this matter, he stated that he only made the smallest possible allowance for "get up," judging the sections almost entirely by their quality. How the Rev. gentleman arrived at his decision as to "quality" is not easily accounted for, as none of the sections of the first prize lot (which were glazed on both sides) had been opened by him, so that they might have contained heather honey, clover honey, or even some of Mr. Hamlyn Harris's "sweets," for anything he knew. Certainly the sections contained beautifully clear honey when held up to the light and examined, in fact far too clear to be heather honey.

Circumstances such as these are not exactly encouraging to exhibitors, and go to illustrate the great necessity for the further extension of the Association's work.—W. H, *Ayrshire.*

WEATHER REPORT.

Westbourne, Sussex.

Rainfall, 2 32 in.
Heaviest fall, 0·4 in., on 18th.
Rain fell on 20 days.
Below average, 1·45 in.
Maximum Temperature, 68°, on 1st.
Minimum Temperature, 30°, on 27th.
Minimum on Grass, 24°, on 27th.
Frosty Nights, 2.
Sunshine, 128·9 hrs.
Brightest Day, 19th, 8·8 hours.
Sunless Days, 6.
Below average, 0·2 hours.
Mean Maximum, 56·2°.
Mean Minimum, 42·7°.
Mean Temperature, 49·4°.
Above average, 1·8°.
Maximum Barometer, 30·42°, on 27th.
Minimum Barometer, 29·25°, on 6th.

L. B. Birkett.

Queries and Replies.

[2752.] *Using Honey from Diseased Stocks as Bee-Food.*—1. I should be greatly obliged if you would let me know through your journal whether, after destroying bees affected with foul brood by chloroform, the honey would be good for bees' use, or would it have to be destroyed? 2. Would chloroform affect it, or could you recommend anything better to destroy them with?—D. P. F., *Sutton Coldfield, October* 4.

Reply.—1. On no account do we advise the use of honey taken from diseased stocks for bee-food. On the other hand, it is perfectly fit for household use, the honey being entirely innocuous to human beings. 2. The best and simplest means we know of for rapidly ending the lives of diseased bees is practically the "sulphur pit," *i.e.*, a table-spoonful of powdered sulphur set in the shallow lid of an old mustard tin, a live coal dropped into the sulphur. Give a puff of smoke in at the hive-entrance, raise it from its floorboard for an instant while the burning sulphur is set thereon, replace the hive, stop the entrance, and in a few seconds "all is over" with the bees.

[2753]. *Starting Bee-keeping.*—I have decided to commence bee-keeping, and I would be very pleased if you would give me your opinion on the following in the B.B.J. :—1. Should I buy skeps of bees with stores to winter now? 2. What kind of bees should I buy for South-West Durham? 3. If purchased in skeps when could I transfer them to

"W.B.C." hives? 4. What size in hives do you recommend? 5. Should the frames in a hive run parallel with or at right angles to the front?—TEESDALE, *Stockton-on-Tees, October* 28.

REPLY.—1. It is *safest* to purchase in spring, when the perils of wintering are over. 2. Either Ligurians or Carniolans—if pure—are quieter to handle than are the natives; but for bee-work our preference is for a good working strain of the latter. 3. The most favourable time for transferring is when fine weather in spring permits bees to go out foraging frequently. We also strongly recommend allowing bees in skeps to transfer themselves to frame-hives, in preference to the now exploded and out-of-date plan of transferring combs and brood into the new hive, where all combs should be new.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

NETLEY (co. Dublin).—*Honey and Pollen from the Ivy.*—The honey and pollen which you say have been "carried in by the bees in large quantities since the middle of October" will be very useful, even though too late for sealing over. The bees will use much of it up for present feeding, and ivy honey is, as a rule, of good consistency, so it will keep well in the combs even if unsealed. The pollen, too, will take no harm under "bee-care," and will be useful in early spring.

A. T. (Linlithgowshire).—*Honey Sample.*—Section arrived (smashed up, of course, but your good packing kept the running honey within bounds). It is a mild-flavoured heather honey of fairly good quality. The aroma and flavour are good, but (as received) the honey looks rather poor in consistency for high-class heather honey. The latter is usually so thick as to allow of the jar being reversed without the honey running out.

F. C. (Sittingbourne).—*Improving Colour of Beeswax.*—Sample No. 1 is of good quality, and has, no doubt, been got from clean combs, or, more probably, from "cappings." No. 2 is obviously from old, dirty combs, and although, as extracted and cleaned by yourself, it is fairly good for ordinary purposes, it cannot be brought to approach No. 1 in quality.

H. G. E. (Hungerford).—*Essays on Bee-keeping.*—1. There are no "cheap essays" such as you mention published to our knowledge. 2. The best practical information regarding bees, their history and habits, can be found in the "Bee-keeper's Guide Book," which may be had from this Office, as advertised in the B.B.J. 3. If lantern slides could be used it would considerably augment the interest in your proposed paper on bees. They may be had for hire.

E. C. (Newton Abbot).—*Commission on Honey Sales.*—There is no "fixed" commission for dealing with honey on "sale or return" conditions. If sold at 1s. per jar, we think 2d. per jar ought to be a fair "commission" to a tradesman.

CROYDON.—*Bees Carrying out Candy from Hives.*—The inference is that the candy is *granular* in texture, not soft and smooth in grain (*i.e.*, "buttery"), as it should be. If not made as above, bees cannot liquefy the candy for storing in the cells, and so cast it out as you state.

E. C. A. (Davenport).—*Experts' Exams.*—1. For information connected with results of exams., application should be made to Mr. Edwin H. Young, Secretary, Bee-keepers' Association, 12, Hanover-square, London, who alone is empowered to answer officially for the Association referred to. 2. The Editors of this journal have no more authority than yourself in this matter.

D. S. (Grimsby).—*Suspected Comb.*—The comb from your friend's "old cheese-box" hive is affected with foul brood. Sample of "matter sent on piece of wood" shows no disease.

H. GOODMAN (Wing, Rutland).—*Wasps and Foul Brood.*—There is nothing in piece of wasps' nest sent to indicate disease of any kind.

W. B. K. A. (No. 34).—*Honey and Wax Samples.*—Honey is only "fair" in quality; it has a "tack" that most consumers will object to; it is also of poor consistency and will not keep well. The wax sent is of fair commercial quality, and will answer well for ordinary household use.

T. K. (Eltham).—*Pollen-clogged Combs.*—Comb is pollen-clogged and consequently useless, but there is no foul brood or any disease in it.

Honey Samples.

J. G. RENTON (Lanarkshire).—No. 1 is a very fine sample of white clover honey. Indeed, your complaint of its "not being so thick as I should like" is quite groundless. In our opinion, it is as "thick" as the most fastidious consumer could desire. No. 2 is equally good as a sample of mild-flavoured heather honey. We think it is a blend of *flower and heather* honey, such as many persons prefer to the strong flavour from heather alone.

W. R. (Cardiff).—With about ½ oz. of broken comb, sent in a little cardboard box (honey all running, of course), it is quite impossible for us to gauge either its source, quality, or "chances on the show-bench." It *appears* to be from white clover, good in flavour, but rather thin.

Editorial, Notices, &c.

"DAIRY SHOW" DISCUSSIONS.

It is not too much to say that the week in which is annually held the Dairy Show and the Autumn Conversazione of the British Bee-keepers' Association has for several years past been a notable one in the annals of bee-craft—notable because of the perennial discussions which have invariably occupied a good portion of space in our columns for several weeks following the actual show, and the subsequent proceedings of the B.B.K.A. at Jermyn-street.

That this year proved no exception to the rule, a glance at the last five issues of the BRITISH BEE JOURNAL affords ample evidence. Moreover, it would seem as if an additional factor will, in the future, be imported into the discussion by the additional interest created—and the tempting opportunity afforded in shape of comparison — through the "Trades' Exhibitions" held at the Agricultural Hall so close to the date of the Dairy Show that they may be all dealt with by critics at the same time.

In dealing with these several exhibitions we have opened our pages freely to all whose arguments are expressed in courteous terms and free from objectionable personalities. To shut out the free expression of opinion is not only undesirable but quite contrary to our own wish, because we see nothing but good to the best interests of bee-keeping in allowing free scope to all who have anything to say worth listening to.

That considerable good has followed in the shape of great improvement in the prize schedules is certain, and this year a source of irritation will probably be removed that has for some time troubled the minds of men whose motives are above suspicion. We refer to the question of "duplicate prize-winning," a "bone of contention" sorely troubling a great majority of regular exhibitors at shows. The resolution unanimously passed at the late *conversazione* will, if given effect to at all honey shows held under the auspices of the B.B.K.A., be productive of great good all round.

The resolution referred to reads as follows:—"That the Council of the British Bee-keepers' Association be asked to take steps to prevent products from one and the same apiary gaining more than one prize in any one class at the same show." This resolution, as will be seen, entirely removes the cause of complaint, and will, we are quite sure, be cordially accepted by those who at present feel that they are perfectly within their right so long as no rule of the show is infringed by duplicate entries. The question has been so fully ventilated that we have now decided to close the discussion with the letter on page 457, from the exhibitor whose communication in our issue of October 17 initiated it. And we trust that all will now settle down, resume old friendships, and agree to co-operate and combine in making the shows of 1902 and future years more successful on all points than the memorable ones of the year now closing.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of October, 1901, was £2,004.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

BIOLOGY OF THE HONEY BEE.

ITS DEVELOPMENT DURING THE NINETEENTH CENTURY.

By R. Hamlyn-Harris, F.R.M.S., F.Z.S., F.E.S., &c.

(*Concluded from page* 443.)

In the present time, on the Continent especially, there are many questions connected with bee life under discussion, and different bee-keepers are to this day at loggerheads on account of them. Nor can this be wondered at so long as we admit the general principle that, in spite of the increase of our knowledge, the gaps seem to widen and instead of gradually filling up we find them growing wider and deeper. Dzierzon, by his careful observations and practical ideas, which ultimately found outlet in the introduction in his apiary of the movable frame-hive, brought about a vast improvement on the old skeps of his day.

There can also be no doubt that long before Dzierzon's time hives of somewhat similar construction were used by single individuals, as is shown in the history of the ancients.

Della Rocca's book, "Traités Complets sur les Abeilles" (dated 1790), which appeared in Paris, shows that the movable-frame hive was not unknown to him, and the conclusion has been arrived at — consequent upon Della

Rocca's work — that the discoverers of the movable-frame were the Greeks, but that Della Rocca was the first to utilise the same in a wooden hive fitted up for the purpose. The Napoleonic and other wars of the period were, no doubt, instrumental in causing this work to be almost entirely forgotten for the time being, so that we owe to Dzierzon the fact that during his life, and on his initiative, the movable-frame hive should have come into general use.

Kowalewski's embryological studies, published in St. Petersburg in 1871, have been followed in rapid succession by others from various authors, so that at the present time our knowledge of the anatomy and physiology of the honey-bee has reached an astonishing limit, the results of which have been felt and appreciated in no small degree by numerous writers, amongst them Cheshire and Cowan, whose works on the anatomy and physiology of this one insect stand unique among our apicultural literature. But our knowledge is by no means approaching to completeness or finality, for the more important the discoveries the greater the progress and the wider do the new possibilities become; nor does this lessen, but rather adds to, the difficulty of the labours before the specialist at work in his laboratory. We must also remember that the knowledge resulting from laborious research is not gained in a day, and we stand now in the light where not so many years ago all was enveloped in darkness and confusion. Thus, with the spread of knowledge out of the discoveries and problems solved, there has arisen a wider grasp of the possibilities of Nature.

In the sixteenth or seventeenth century we see how the anatomist had to content himself with the use of knives and scissors in order to give to the student an insight into the organisation of the human body, but in the nineteenth century the greatest triumphs have been achieved with the help of the microscope, microtome, and other instruments. Thus equipped with every modern improvement, the zoologist can command with perfect composure a field vast in extent and immeasurable in its limits. In this way, then, has man, aided by science, laid bare a side of life hitherto unthought of. About the year 1840 a discovery was made which is now recognised as one of the most valuable additions to our knowledge of biology, viz., that every individual animal and plant is built up of single cells, each representing in itself an elementary organism commonly called an organic unit, and that the cell—whether animal or vegetable—consists essentially of "protoplasm," that being the name given by Hugo von Mohl in 1846. This cellular theory has afforded to the science of anatomy and physiology as firm a fundamental basis as the atomic hypothesis has to chemistry. The fact that certain cells—as, for instance, the corpuscles in the blood—are packed masses of living protoplasm with no restricting cell walls shows that the contents and not the mere walls of the same, are the real seat of life. In contradistinction to the living inclusions of the cell, the lifeless portions were collectively designated metaplasm by Hanstein.

Having, then, grasped the important position which the cell plays in the development of life and the complicated results which are obtained, we are better able to understand how the whole is set together, by what processes the desired end is attained, how the various and complicated organs are developed, and how in their final structures they resemble the same organs of other beings. Thus has histology taught us to see in the protoplasm of the cell a formitive substance; the individual cells being capable of altering their structure and position and, working together for one common end, produce by differentiation the most remarkable tissues and organs.

Unless these facts are grasped and correctly understood we are unable to understand the real meaning of life as displayed in such a wonderful insect as the honey-bee; for, as Wilson has said, "There is at present no biological question of greater moment than the means by which the individual cell activities are co-ordinated and the organic unity of the body maintained, for upon this question hangs not only the problem of the transmission of acquired character and the nature of development, but our conception of life itself." The importance of this fact cannot be underrated, for it brings us into contact with the deeper problems of life. As has been said, "Every object in Nature must be regarded and examined in the light of an individual organism." Therefore, when we realise this, then, and then only, can we expect to solve those problems which are the fundamental principles of zoological biology.

Carl Ernst von Baer once gave expression to his views in the following remarkable sentence:—"Science is eternal in its origin, not restricted by time or space in its efficacy, immeasurable in its limits, its task endless, its goal unattainable." Who, then, can wonder that we see further than our forefathers did? That we are able to bring to bear so much then unthought of, and that, instead of groping about in absolute darkness, the light continues to shine and a bright prospect gladdens our horizon?

Time after time, one after another, have new discoveries been made, new ideas and thoughts given expression to, problems solved, until the sum of knowledge has reached a pitch which is perfectly astounding, and yet, in spite of all, it becomes certain that we are at the beginning of a field, as yet only touched, of subjects but begun; and, though we have so far got only an inkling of the vastnesses of creation, the hope of fuller knowledge stimulates the earnest seeker after truth to strike out anew, and with heart and soul to plunge into the depths of nature and science.

In building a house a single stone or brick is valueless, but when more and more are added, and with the careful consideration of the builder, each atom of material occupying its appointed place, each becomes of the utmost importance to the whole. So it is in science, each naturalist who has added his iota to the building has contributed no mean portion of that which makes up the whole. There are, of course, yet many points on which one might touch, many subjects which might be profitably discussed and entered into, but let us in this first year of another century review the past, if only to seek understanding and wisdom for the future. And let us say with Keith-Brooks :—

"As for myself, I hope with all my getting to get understanding, for the heart of him that hath understanding seeketh knowledge."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office,* 17, *King William-street, Strand, London, W.C."*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

BEE-KEEPING IN AMERICA.

THE PAN-AMERICAN EXPOSITION AT BUFFALO, 1901.

[4560.] The universal praise accorded to the Pan-American Exposition, the unprecedentedly low and tempting railroad excursion fares to it, and its easy accessibility were some of the factors that helped me to decide to visit this great show during the short tour I have been making among some of the bee-keepers of America. Of course there was a bee and honey exhibit amongst all the other wonderful things, and it was a warm invitation and welcome to his house from Mr. O. L. Hershiser, who, besides being the manager of the bee-keeping exhibits, is an extensive and up-to-date bee-keeper, that furnished the chief inducement for my spending two happy days at the exhibition. This subsequently led to my gaining a great deal of information about the bee and honey exhibits there, which I am sure will be of interest to some of our bee-keeping and honey show exhibitors in Britain.

The idea of the Pan (Greek $\pi\alpha\nu$=all) American Exhibition was set on foot five years ago. It was a magnificent scheme, and it has been fittingly carried out. It was decided to hold a great fair representing the present state of the arts and manufactures, agriculture, horticulture, &c., of the countries and States of the two great American continents. No expense was spared to make the exhibition the greatest of its kind on record, so that it rivals and even excelled the great World's Fair held in 1893 at Chicago. A spot just outside the City of Buffalo was chosen as the most suitable site for this gigantic undertaking, and the proximity of the world - famous Niagara Falls with their inexhaustible electrical power supply enabled the promoters of the Pan-American Exhibition to arrange for a nightly display of electrical illumination—of which the finest specimen is the famous Electric Tower—on a scale which left far behind it anything of the kind ever previously attempted. A bill was passed through the United States Legislature fixing the capital stock of the Pan-American Exposition Company at 2,500,000 dols., and this bill also gave permission to float bonds to a similar amount. These details and the tragic event that occured in one of the Pan-American buildings in September last, depriving America of one of her best loved and most respected Presidents by an assassin's hand, are all points in history to which it is only necessary to allude here, so I will pass on to matters which are more specially of interest to bee-keepers only.

The bee-keeping exhibits at the Pan-American Exposition were situated in the gallery of the great agricultural building, and comprised four fine displays, the two largest consisting of honey and wax, and the other two of hives and appliances, or, as they are called in America, "bee-keepers' supplies." The honey exhibits were made respectively by the State of New York and by the Province of Ontario, and contained honey and wax obtained from districts included in these territories almost exclusively. They were therefore hardly representative of the bee-produce of the two Americas; this, however, detracted but little from their interest to me. Each exhibit consisted of from 4,000 lb. to 5,000 lb. of honey, besides a small quantity of wax, but the manner in which each was displayed was strikingly dissimilar. The New York State exhibit consisted chiefly of comb-honey in sections. These were packed in shipping cases, a form of package unknown to a large number of British bee-keepers, but universally used both in the United States and Canada. The American shipping case is a light and simply-constructed wooden box, made just large enough to hold twelve, twenty-four, or thirty-six sections, as the case may be, and with a strip of glass let in before the face of the outside row of sections. Jobbers and retailers handle comb-honey almost entirely in these shipping cases. The size that holds twenty-four sections seems to be most in demand, and also chiefly in evidence at the

honey exhibits of the Pan-American. The strips of glass in the front of the shipping cases were, in many cases, less than 3 in. wide, and they extended the length of all the sections in the row (usually four), so that although the whole of the middles of the combs were visible (from the wood on one side to the wood on the other), the whole of the upper and lower portions of the combs to the extent of about 1 in. were hidden. Owing to the high price of glass compared with that of wood, there seems at present to be a tendency to make the strip of glass in the shipping case even narrower. Almost all the comb-honey was in "plain" (no bee-way) sections, and the new tall (5-in.) sections of various widths were very well represented. All the comb-honey seemed to be of very fine quality, perfectly finished, and with the capping white and very even. One group of sections specially attracted my attention. They were the exhibit of Captain Hetherington, of Cherry Valley, N.Y., who has the reputation of being the largest comb-honey producer in the world. I was told that Captain Hetherington has produced as much as 100,000 lb. of comb-honey in one season. I understand that Captain Hetherington manufactures his own sections, and his preference is for a 5-in. section by about 3⅞ in. across. These appeared to be the dimensions of the sections in his exhibit. Each section was enclosed in a folding cardboard box or carton which had a oval hole in the front, through which a good sized portion of the comb can be seen. I was told that the hole was covered with a thin sheet of mica, which was found to be cheaper and more suitable for the purpose than glass. The carton was of dull cream colour, and above and below the oval aperture a few modest but very effective lines of wording were printed in plain but bold black letters. Of course, the honey was in "plain" sections, which brought the surface of the comb close up to the mica, and the comb was of the finest looking quality. I could see that every detail of the package was the work of an expert, and it specially interested me, because for a maximum amount of good looks with a minimum amount of expense in producing them, it seemed to me that this package was well ahead of any other exhibit of comb honey that I had seen. Till one sees it, it is difficult to realise the very high-class effect produced by a plain tall section placed in a card show-case having an oval opening.

The whole of the New York State honey exhibit was shut up in large glass cupboards, or show-cases. No attempt was made at a display of honey, such as we understand it at our British shows, and the effect produced seemed to me to be rather disappointing, considering the large amount of splendid-looking honey that was there. In this matter the exhibit of the Ontario Bee-keepers' Association presented a pleasing contrast. Their display was really magnificent. It consisted of the produce of about twenty-three exhibitors from different parts of the Province, and of one from the province of Quebec. A large quantity of the honey was in glass jars of various sizes. All the comb-honey was in shipping cases, as in the New York exhibit, but little towers of sections, and extracted honey in fancy packages, were erected in the British style, with thick slabs of glass between each storey, and the honey being of fine quality, and well put up throughout, the effect was specially pleasing. Here and there the exhibit was embellished with cakes of beeswax cast in fancy shapes. Some of the extracted honey was granulated, but most of it was clarified and looked very well. Mr. John Newton, of Thamesford, Ont., President of the Ontario Bee-keepers' Association, was in charge of the exhibit, and gave me a great deal of interesting information about Canadian bee-keeping, much of which, I regret, I have no room or time to repeat here. I was surprised to find that nearly all the sections in the Ontario exhibit were made of four pieces, and therefore dovetailed at all four corners. I suggested to Mr. Newton that the Ontario bee-keepers must be behind the times in this matter, but he smilingly replied that they considered themselves in advance of the times, for they had tried the one-piece sections and had rejected them in favour of the four-piece, which they found to be better. I asked on what grounds they had come to this conclusion. I half expected to hear something pointing to some new idea in comb-honey production in Mr. Newton's reply. It was that in folding a one-piece section they could never get it to stay square, and this was a particular nuisance in the case of fitting full sheets of foundations into sections—a thing they often wished to do. By what I have seen I should say that no bee-keepers in the world know how to produce a better-looking finished section than the Ontario men, and their opinion is worthy of respect. Owing, however, to the construction of most of our British supers, the question of the adoption of a four-piece section is one that need hardly trouble us in Britain.

Another position in which the Canadian bee-keepers stand almost alone is in the matter of extra light weight sections. The combs are much thinner than ours, and being no larger they weigh only about ¾ lb. The tall section is, however, coming to the front in some parts.

The price of comb-honey seems to be very high in Canada, 10d. to 1s. being the average prices realised, while extracted honey fetches only from 5d. to 6d.

But I am digressing. To the rear of the New York State honey exhibit Mr. Hershiser showed me a somewhat unique exhibit, consisting of a working apiary of ten full colonies of bees, the bees being allowed to fly through a trellised window arch. This apiary was established at the time the Exhibition was opened in May, and during the summer it has

produced as much as 950 lb. of surplus honey, or an average of 95 lb. per hive. Mr. Hershizer felt confident that the yield would have exceeded an average of 100 lb. per hive if he had not been somewhat unlucky with one or two of the colonies. A large number of tall plain sections that had been fitted on these hives were shown in the honey exhibit.

The two exhibitors of bee-keepers' supplies were the A. I. Root Company and the W. T. Falconer Manufacturing Company. Mr. Robert Calvert was in charge of the former firm's exhibit, and kindly explained many of the articles. A splendid collection of up-to-date hives and appliances was shown, and many of these I should like to describe here, did not space and time prevent, but I hope to be able to do this in a future communication. —F. W. L. SLADEN, *Ottawa, Canada, Oct.* 18.

SOME ESSEX NOTES.

THE B.B.K.A. CONVERSAZIONE.

[4561.] The discussions at these gatherings of prominent bee-keepers usually make interesting reading in our JOURNAL for those of us who are unable to attend on these special occasions. Among the many subjects discussed I note the question of "Insurance for Bee-keepers." This would be a good thing for the craft, although I fear it might lead to abuses, such as carelessness in handling bees. But where possible and necessary the consequences of such abuse would, of course, be made to fall on the head of the bee-keeper himself.

Bees and Offensive Smells.—Having had a large share of experience of the causes and effects of bees stinging animals and men, my experience tends to show that the almost invariable cause is an offensive smell, due either to a heated condition of the body and consequent perspiration, or the uncleanly condition of the body and its coverings, or both combined. Two or three years ago a serious accident was only avoided by the exercise of presence of mind when men persisted in working horses with a mowing-machine near my bees in the heat of the day. At other times I have seen a horse quietly grazing near the bees for hours undisturbed in the least. On one occasion an old horse, like the one in last year's "Bee-Case," lay down for hours behind my bees, only a few feet from the hives, and on higher ground, so that the bees were continually passing to and fro by the horse, but being in a cool condition, the animal was apparently not in the least offensive to the bees. Cats and dogs may roam among the hives unmolested, but if they happen to get in such a position that the bees can smell the animals' breath, they will soon get notice to "move on." Even in the latter case, cleanliness makes all the difference, and I have noticed that a dog not kept clean is most offensive to bees. Personally I can usually do what I wish in the garden and about the hives by keeping cool and clean, but if men are working in an adjoining field in a heated and not too cleanly condition, a bee is sure to be attracted to them now and again, and the worst of it is that the men usually "go for" the first bee that comes within striking distance. This striking out with caps, &c., attracts other bees to the spot, with the very worst results. Sir Stanley Edwards expressed the opinion that bees object to the noise caused by sharpening a scythe or a knife. My experience is that bees do not notice noises. You may sit by the hives all day banging a tea-tray or a tambourine, or blowing a trombone, and the bees will give no sign of hearing it, but they will at once notice the rapid motions of the hand that does the banging and will be annoyed thereby. I am of opinion that the attacks on General Edwards's gardener were due first to the movement when sharpening the scythe added to the smell from the grass when cut.

With regard to the question of insurance, I notice Mr. Reid said that fortunately a great number of subscribers to bee-keepers' associations pay a fee above 2s. 6d. for membership, which makes it possible to accept cottagers at 2s. 6d.; but I may be allowed to point out that in some bee-keepers' associations the bulk of the members pay no more than 2s. 6d. Some of those who pay 5s., however, expect to have ten shillings' worth of work done for them; and, to my knowledge, it is not uncommon for the hon. sec. to have to wait two years for a small subscription from the very members who expect so much for it. One also, at times, meets with bee-keepers in more than comfortable circumstances, keeping from twelve to twenty hives of bees, and yet paying only a subscription of 2s. 6d, while so-called labourers are found paying 1s. subscription, and keeping a dozen or more stocks for the association's expert to see to. These matters want readjusting in such cases, surely.

Dark and Light Honey.—Though Mr. Reid admitted (on page 431) that some of the dark honey at the Dairy Show "tasted abominably," I consider the extension of classes for extracted honey is a step in the right direction and of considerable educational value. Some dark honeys are, no doubt, very nice, but exhibitors should be compelled to grade the colour of their honey properly. This is not done at present. The opinions expressed by Mr. Perry (on same page) on light-coloured honey are, to say the least, surprising, and should be accepted just for "what they are worth." I had my first experiences of modern bee-keeping in the immediate neighbourhood of Banbury, and never did I meet a bee-keeper there who held such an opinion.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

SCOTCH BEE-KEEPING CRITICISED.

[4562.] I am sorry our esteemed friend, Mr. Wm. McNally, should consider himself aggrieved by my remarks made at the Con-

versazione of the B.B.K.A. in October last. I certainly had no intention of making any disparaging remarks on Scotch bee-keeping. The case to which I drew attention was a piece of flagrant wrong-doing needing publicity, with which I am sure Mr. McNally will agree.

But while admitting that the sentence to which our friend takes exception does sound a trifle unfair, I assure him it was never meant to read in that way. What I said and had in my mind was the unprofitableness of those large tracts of land and rock upon which hardly anything will grow except heather. I may have regarded Scotland too much from a geologist's point of view. But be that as it may, a country is generally easily understood, botanically and otherwise, by the insects which abound or not, as the case happens to be.

Hymenoptera (a speciality of mine) were exceedingly scarce, and I could at a glance discern the amount of vegetation by the number of Hymenoptera on the wing day by day. I had also ample opportunity of confirming these ideas. If Mr. McNally is a lover of insects, in addition to being an entomologist in the strict sense of the word, I need have no fear of contradiction with regard to my remarks, for he will no doubt have experienced the same thing over and over again. I am sure my explanation—if needed at all—will satisfy any who may have imagined that I had any ulterior motive in making my remarks, which, in my own mind at least, at the time were quite of secondary importance.—R. Hamlyn - Harris, *Tübingen, Germany, November* 10.

PERSISTENT SWARMING.

CAN IT BE PREVENTED?

[4563.] Your paper gives opportunity for so many valuable discussions that I venture to send a few lines on the much discussed subject of prevention of swarming. Again and again one sees accounts from correspondents who assert that they have had no swarms during the whole season. I do not know whether in these cases artificial swarming is resorted to and that no *natural* swarms have issued; but assuming that this is not the case and ordinary ten-frame-hives are used, I am drawn to the conclusion that locality, including by this word the sources from which the bees obtain their supplies, has more to do with the question than actual skill in management. I do not speak as an expert, but I have kept bees since 1892, and have tried numerous devices mentioned in your papers with the same useless result. My bees *will* swarm. Take this year as an example. I started with five hives, sections were put on before any honey-flow began, and were taken to by the bees with no difficulty. On one hive, in addition to sections, I had a box of shallow-frames with starters under the brood-chamber, and another hive had twenty frames given them, besides two racks of sections. Yet every hive persisted in swarming, and the worst was the one with the twenty frames, the bees of which came out four times, in spite of cutting out queen-cells on each occasion. I never keep a queen over her second year, and mostly renew every year. Now it seems to me that the real reason of this lies in the fact that we seldom in this district ever have more than a week's continuous honey-flow, except in the case of ling. We get snatches of a few fine days, followed by two or three more working days, and these "off days" set up the desire to swarm. The country is all meadow land — indeed, there are not more than two acres of ploughed land in the neighbourhood — so that the bees depend for their supplies on sycamore trees, beeches, hollies, and natural clovers, &c., in the grass, along with what they can get out of a few gardens. Everything depends on the ling. If that fails we get nothing in the way of sections. It is, in consequence, exceedingly difficult to keep the bees going and at the right strength the whole season. This year I took 170 lb. from the five hives, all in sections, of which three-quarters was ling honey. If I have made the circumstances clear it would give me much pleasure to have some advice on the way to deal with my hives, whether, for instance, it would be better to artificially swarm each hive, and join them up when young queen is proved mated. Giving room in advance, as regards sections, is, I know, of no use whatever, and whether they be Ligurians, Carniolans, natives, or hybrids, they swarm with a persistence which is very aggravating.—C. H. Lowe, *Rylstone Rectory, Skipton, November* 9.

TALL *V.* SQUARE SECTIONS.

[4564.] Being interested in the discussion on tall *versus* square sections, which appeared in the Bee Journal last spring, I thought I would give them a trial, so I fitted up a rack half with tall sections and the other half with square ones. I thought this was a better plan than putting the different sections on separate hives. The bees took to the square sections first, but had sealed honey in the tall sections first. When the bees were working in all the sections I put another rack underneath the first, but a few days after the honey flow ceased. I then took off the first rack and found all the sections sealed, except the outside rows, which were partly sealed, but unsaleable, although the tall sections had more cells sealed than the square ones.

The only thing in favour of the tall sections is that they look nicer, for although the bees begin sealing them a little quicker there will always be some sections only partly full at the end of the season. Then the tall sections cost more, the foundation and glass will cost more, dividers must be provided, and a lot of labour entailed in altering racks and hives,

and, most important of all, the tall sections do not sell so well, as customers find there is more wax in proportion to the honey—what they want is more honey and less wax.—W. I. R. S., *Bath, November* 9.

DUPLICATE PRIZE-WINNING.

[4565.] I beg to thank Mr. Woodley for his "congratulations" on page 444, and there seems no need for prolonging this discussion, but I would suggest that Mr. W. makes a statement similar to mine on page 414 of B.J. for October 17, with regard to making no more than one entry in any one class at any show he may be exhibiting at. I think one noted winner in one family is enough. I also see Mr. A. D. Woodley (page 447) expresses regret at this "wordy warfare" having started between old friends. For myself I see no reason for dropping friendship over such a trivial affair. All I ask is fair play, not only for myself, but others, and, judging from the number of letters I have received from all parts it seems to be felt as a general grievance. I therefore feel I am only voicing the opinion of honey exhibitors of the United Kingdom.—H. W. SEYMOUR, 53, *Market-place, Henley-on-Thames, November* 11.

[The above subject having, as we think, received full and adequate attention in our pages, the discussion may now be considered as closed.—EDS.]

JUDGING EXHIBITS.

[4566.] Referring to the exhibits at the Confectioners', Grocers', and Dairy Shows respectively, I was very much surprised on reading through the list of prize-winners at the "Dairy" and not seeing included the names of any winners at the Grocers' Show. I wrote Mr. Shaw, Whitby, asking if he was showing at the latter, and learned that he was; not only so, but he told me he was at the show, and saw the exhibits along with another competent practical bee-keeper who figures as an experienced judge in honey. Mr. Shaw's opinion of the judging of extracted heather honey at the "Dairy" is that it was faulty to a degree. At the same time he spoke very favourably of the judging of the classes for clover honey. I might say Mr. Shaw sent me a jar of his heather honey to compare with mine, which received a simple "Commended" at the same "Dairy Show," and after comparing the two, I consider there are good grounds for complaint with regard to the "judging."

I say, in conclusion, let honour be given where honour is due.—J. H. HORN, *Bedale, Yorkshire.*

[We have somewhat condensed our friend Mr. Horn's letter as above—first, because our space is overcrowded this week, and second, because the matter left out is more or less a repetition of what appeared in last week's issue. We also trust that the question of "Judging at Shows" will now be allowed to close. In our desire not to do anything to hinder "free speech," we have already inserted more criticism than is agreeable to ourselves or others who have done much judging this year, but it may now with advantage to all be permitted to end here.—EDS.]

NEW INVENTIONS IN APPLIANCES.

[4567.] Replying to the letter of "The Inventor" (4551, page 446), I may say my criticism was directed to the article as shown at the Conversazione, and passed to me for my candid opinion, which I gave. I think, after twenty years' inventing, making, and patenting bee-appliances, I ought to know a little bit about what is worth "acceptance." I may also say that similar articles to the one exhibited by our friend have been on the market for a long time, and made principally to comply with the requirements of the "Royal Show" schedule for a "swarm-box for travelling purposes," and a nucleus hive for the same purpose. These appliances have never been remunerative to the maker, and are not valued by the "up-to-date" bee-keeper, and certainly not purchased at the prices asked for them or that they can be made to pay at. Those bee-keepers who use these "fancy articles" as they may be termed are few and far between, and as a commercial speculation there is not a penny to be made out of them.

Besides, the one shown had no bottom ventilation, and to use it would mean risk of suffocation and great loss to bee life through crushing, &c., and I do not think any one would care to be bothered with the elaborate "strapping" arrangement. An article costing 6d. that could be used quickly, and a cord round to secure would, in most cases, be far preferable.—W. P. MEADOWS, *Syston, November* 11.

SUGAR FOR BEE-FOOD.

[4568.] I was exceedingly interested in reading the remarks on the above subject in B.B.J., November 7, the more so as such facts as those to which Captain C. R. Harris refers are of great import to bee-keepers. The careful bee-man cannot pay sufficient attention to the question with what sugar he supplies his bees, either for winter or for stimulating purposes.

I, for one, should be pleased to see some more remarks on this matter. Can Captain C. R. Harris give us any?—"MUSCA VOMITORIO," *November* 9.

EXTRACTING HOUSE.

[4569.] I am now writing you to ask if some of your readers could give me any hints on constructing an extracting shed—or house—suitable for an apiary containing about twenty-five colonies of bees. I wish to make

one before the season commences next year. Perhaps I am a "bit previous" in writing so early, but I thought you might spare a little space as the quiet season comes on, and also our brother bee-keepers could awhile to give us the benefit of their experiences should you deem the subject sufficiently interesting to your readers.

We have had a fairly good season in this district and the honey has been excellent in quality. One half of my crop is already sold, so have no fears of old stock by the next season.

I should be most grateful for any advice on above if you could publish same in our B.B.J. or *Record*.—"A WORKING B.," *Staffs.*

[The above letter has been accidentally mislaid for some weeks, but there is still ample time for any hints our readers may be good enough to offer on the subject referred to.—EDS.]

THE BRAIN OF THE BEE.

[4570.] The brain is the nervous centre in which reside consciousness and power over the voluntary movements of the body. Some insects show an almost infinitesimal proportion of brain, but I am pleased to say this is not the case with the bee, because it is generally agreed that the size of the brain is in proportion to the development of intelligence, *i.e.*, the more intelligent the creature, the larger will be its brain in proportion to its own size. The bee's brain, in common with that of all creatures, is the seat of intelligence or instinct, which guides and directs it in the performance of the manifold duties existence calls on it to carry out for its own well-being and that of the community of which it forms a part. Judged by the state of perfection in which it performs these delicate and intricate duties, we may conclude that a very high degree of instinct, at least, has been assigned to the Apidæ. And science clearly and unmistakably shows us that our surmise is correct. Here is an interesting and truthful item for bee-men to know.

Dujardin, who devoted a large measure of time and attention to the subject, states that in the worker-bee the brain is $\frac{1}{77}$th part of the body, while in the wise and intelligent ant it is only $\frac{1}{30}$th part; and, going down the scale to perhaps the lowest order of animate creation, the relative proportion sinks to $\frac{1}{2500}$th in the case of some of the water beetles. It is comforting, too, to discover that, comparing workers, drones, and queens in regard to brain power, the wise little worker-bee shows a very much larger proportion than the "lazy yawning drone." This holds good not only in proportion to its size, but absolutely. Love seems to occupy all the drone's vital powers, to the detriment of sense, while the queen's brains are atrophied to the enlargement and perfecting of her laying organs. Therefore, we find, as we might naturally have foretold, that most brain power has been given to the worker who builds the cells, nurses the young, provides the staff of life, guards the luscious treasure, and generally carries out the royal will and imperial behests of the spirit of the hive. "Within this tiny head we find the workings of the vastest and most magnificent brain of the hive; the most beautiful and complex, the most perfect that, in another order and with another organisation, is to be found in Nature after that of man."

I feel well pleased to record that last important sentence in praise of the Hymenoptera, and our pets should rise higher in our favour and receive a larger measure of our esteem when the important truth is fully grasped.

The brain of the bee consists of two parts, one initiating and regulating all instinctive acts and movements of the various organs, as, for example, the eyes, tongue, wings, and legs. That is, these ganglia originate the nerves of sensation and motion which regulate the life and well-being of the insect. All creatures with any degree of the instinctive faculties possess a brain of this description; but where intelligence dominates mere animal instinct, then we find the bulk of the other matter—pedunculated bodies—increases. Let me again quote Dujardin to make my meaning clearer. In the hive bee these pedunculated bodies form one-fifth of the whole brains, while in the cockchafer it is less than the *thirty-three-thousandth*, and, going to the other extreme, in the ant it forms about one-half of the whole.

The ganglia of the brain is connected with other masses of ganglia lying along the spinal column by nerve fibres, and these nerves serve to administer, say, the genital organs and the sting; another set maintain the work of digestion, and yet another the organic life of the bee. It may make the subject clearer if I explain matters by a familiar illustration. The General Post Office is the main centre for postal and telegraphic communication. Radiating from that centre we have a network of "nerves" passing to the remotest parts of the country, and even to the uttermost parts of the earth. Other minor centres, however, exist all over the kingdom in the case of our largest cities, such as Manchester, which *generate* another set of nerves initiating, governing, and regulating procedure in a certain radius, independent to a certain extent, but yet in close communication with the head centre. Such is the ganglia of the brain, with its ganglionic chain and masses of ganglionic cells. One set, as I have said, governs and controls sight and kindred senses, another set the digestive faculties, and yet another locomotion. All of these are to a certain extent self-acting, but yet all depend on the main centre of the brain.—D. M. M., *Banff.*

THIRSK AND DISTRICT B.K.A.

At a meeting held in the Assembly-rooms, Thirsk, on Friday evening, the 1st inst.,

an excellent paper was read by Mr. H. F. Garnett, of Well, Bedale, on "Wintering Bees." Mr. C. Moore presided. The paper, which touched on the necessary treatment for a stock coming out strong in spring, was both instructive and interesting, and was freely discussed by Mrs. Hildyard, Miss Gill, Messrs. R. T. Tennant, R. Walton, E. Pick, H. Beckett, Sergeant-Instructor Colton, and the Chairman. A pleasant evening was spent, which closed with a hearty vote of thanks to Mr. Garnett.—R. T. TENNANT, *Hon. Se*.

Queries and Replies.

[2754.] *Starting Bee-keeping. Working for Increase.*—I am hoping to start bee-keeping in earnest next spring, and in consequence am taking the liberty of writing you for advice. About six weeks ago a friend gave me a stock of bees established in a straw skep, and told me they were "a strong lot and had plenty of stores to last the winter," so that they would be all right until spring. Being a working man, I cannot afford to spend much money on my new "hobby" in the way of buying swarms, &c., my chief aim next year will be to increase my present stock as much as possible. I therefore ask:—1. Is it possible, under the circumstance, for me to have three stocks established in frame-hives by the end of next season (the present lot, when transferred, being one) and get a little surplus honey as well? 2. I intend to transfer the present stock as recommended in Mr. Cowan's "Guide Book" (page 140). Would it be best performed in early April, as recommended, or would I be likely to get the swarms earlier by leaving it until after swarming is over? 3. I suppose all brood in the skep would be hatched out in about three weeks after the queen went below. Would it be safe to remove skep at end of that time or should I leave it a few days longer, say another week? When skep is placed in position I suppose all entrance to it is blocked, except through frame-hive. 4. How soon after removing skep would it be advisable to commence supering the frame-hive? And about how soon after hiving a fresh swarm would the bees be ready for supering? 5. In my ignorance I placed the bees on a stand about 1 ft. 9 in. high and against a wall. I now find that I ought to bring them forward about 2 ft. from wall, and lower them 1 ft. It would much simplify matters if I could leave them where they are until the time for transferring, as the frame-hive would be in right position if placed on a lower stand in front of present one. I would then simply have to lift skep forward on to top of frames. Could I manage it in this way, or would it be likely to confuse the bees? I am afraid I am trespassing too much on your good nature, but you must excuse me, as I want to understand everything as clearly as possible.—G. GELDARD, *Walton, Liverpool, November* 6.

REPLY.—1. To start in spring with a single colony of bees in a straw skep and expect to increase to four stocks in frame-hives, while at the same time secure some surplus honey the same season, is to expect what is quite beyond the powers of any beginner. Moreover, it is rather unreasonable to look for such a result. An experienced bee-keeper certainly might secure the end aimed at if time, trouble, and outlay were matters of no moment, but even in this case he would not follow the safe and good method recommended in the "Guide-Book" (page 140). By that plan the bees are allowed to transfer themselves, and increase can only be obtained by dividing the colony later on into two lots, one of which would need a fertile queen being provided for the queenless portion. 2. You would probably get no swarm from a stock so transferred. 3. Yes, if broodless and queen safe below. 4. All would depend on the honey-income at the time. 5. You can safely leave them as at present.

[2755.] *Wintering Transferred Stocks.*—I shall be very glad if you will tell me what to do in the following case. I have been from home since the beginning of August, and my bees (six hives, three of which I drove out from the straw skeps after they had swarmed) have filled all the brood-frames with sealed honey. They have not gone up into the sections at all. 1. Ought I to take away some of these frames and give them fresh sheets of foundation—I have no comb ready—or must I leave them as they are until the spring? 2. How can I make the hives warm for the winter if they are left as they now are? The bees are still gathering honey. I only started bee-keeping this summer and will be very glad of some help. 3. Will you also please give the address of the Cornish Bee-keepers. Association?—M. A. SMITH, *Trenance, St Issey, Cornwall.*

REPLY.—1. It is utterly useless giving sheets of foundation to bees at this late period of the year. By all means leave the hives severely alone till spring if well stored with food. 2. Only by plenty of warm wrappings above frames, and seeing that roofs are rainproof. 3. The hon. sec. of the Cornwall B.K.A. is T. R. Polwhele, Esq., Polwhele, near Truro, who will afford information as to membership.

PRESS CUTTINGS.

A CAUTION TO STALLHOLDERS.

An incident that lately took place at an open-air sale of work may serve as a warning to those entrusted with the sale of honey. At Burnley-in-Wharfedale a quantity of honey in comb had been given, and placed in position before the sale began. However, when the

stallholder arrived, she was quite unable to approach her stall, which was completely covered with bees, the air being black with them. It requires greater courage to attack a swarm of bees than a gang of burglars, so the stall had to be abandoned, and the bees carried away every morsel of the honey to their hives in the adjoining village. The flight of a bee is about two miles from its domicile, and its scent is about as powerful as its flight, and the bees can smell honey at such a distance, and will make for it and carry it off. Of course, the mistake made was in leaving the honey exposed instead of covered up. As the public are tiring at last of buying perfectly useless articles at sales of work, the popularity of produce stalls has been great, and their presence universal, so if any one wants to make a produce-stall unapproachable the above will show them how to do it.—*Western Morning News.*

ADULTERATION—FRAUD OR CRIME?

Another illustration which may be cited is in the case of the glucose of commerce. Now, the glucose of commerce is a mixture of dextrose and dextrine with a small quantity of maltose, produced by modifying starch under the influence of an acid. It is well known that the starch in foods must undergo a similar process, under the action of the ferments of the digestive apparatus, before it can be assimilated and act as a nutrient for the body.

From this fact it might be inferred that a partial previous digestion of the starch, such as is referred to above, might be of advantage. This, however, cannot be unqualifiedly admitted. It is a well-established principle in physiology that the disuse of organs tend to produce wasting, and, eventually, functional paralysis. Hence, if the starchy foods are replaced by artificially digested starch, the organs which produce the natural ferments to act on the starch are deprived of a part of their functions and must suffer from disuse. It is evident, therefore, from this point of view, that the use of predigested starch is to a certain extent prejudicial to the health of the digestive organs.

Again, there may be objections to the use of glucose from another point of view. This substance is, as is well known, largely used as an adulterant for honey and jelly. Honey owes its value to the peculiar flavour which it possesses, due to the aromatic substances derived from the flowers, and possibly to traces of formic acid obtained from the digestive organs of the bee. In other words, honey is not prized simply because it is a carbohydrate, but because of its flavour. Whenever, therefore, glucose is added to honey, by the substitution of it for the aromatic substance above mentioned, the peculiar flavour is destroyed, and the honey is to that extent made less desirable.—*Science Siftings.*

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. H. (Cumnock).—*Honey Samples.*—Of the fine samples sent, No. 1 is thin but good in colour and flavour. No 2, better consistency than No. 1, and equally good on other points. No. 3, the colour (deep golden) is about that of medium-coloured honey as properly represented on the show bench; the flavour is only fair. Nos. 4 and 5 are excellent in colour and general appearance, but we do not like the "feel" so to speak, when on the tongue; they are much too "oily" for our liking, and we should not be prepared to guarantee their perfect purity.

W. H. Hooper (Worcester).—*Dealing with Foul Brood in Australia.*—Much obliged for the trouble taken in copying out letters on foul brood from the "Australian Culturist." We see nothing, however, in the extracts to make them worth reprinting in our pages. The writer evidently has no knowledge of the scientific side of the subject, and his theories are, in consequence, of little value. It is well known that "coal-tar," in its various forms, is the *base* on which nearly all antiseptics are built, but to talk of coating floorboards with coal-tar to cure foul brood is absurd, as are also some others of the statements made.

Cymric (Winchester).—*Naphthol-Beta Solution.*—Your inquiry dated 30th ult. must have miscarried in post, and as the question is not repeated in note dated 10th inst., we are, of course, unable to reply.

A. J. R. (Suffolk).—*New (Patent?) Floorboard.*—If the appliance is forwarded we will express our opinion on it.

J. S. Lawton (Bridgnorth).—*Wasps and Foul Brood.*—The "dark substance" you refer to in cells of comb from wasps' nest is simply the dried-up remains of dead larvæ that have become chilled. We see no trace of disease about it.

Jas. M. Bryce (Oxted).—*Management of Straw Skeps.*—The small pamphlet referred to is now out of print.

J. E. Greenwood (Kirkheaton).—*Experts' Certificates.*—For the particulars required write to Mr. Edwin H. Young, Sec., B.B.K.A., 12, Hanover-square, London, as stated fully on page 450 last week.

J. Hirst (Slaithwaite, Yorks).—*Making an Observatory Hive.*—The hive described in "Work" is not suited for attaching the "Brice" feeding arrangement to. Jas. Lee & Son's catalogue is the only one in which the latter is illustrated.

Syx (York).—*Experts' Exams.*—The books recommended by the B.B.K.A. are "The Honey Bee, its Natural History, Anatomy, and Physiology," and the "Bee-Keepers' Guide Book," by T. W. Cowan. The other work you refer to is not mentioned.

Editorial, Notices, &c.

SHOW AT NEWCASTLE-ON-TYNE.

The management of the Grocers' Exhibition held their third annual show at Olympia, Newcastle-on-Tyne, at which medals and cash prizes were offered for honey, &c., in ten classes. Although the exhibition under notice is the third held under the same auspices, beeproduce was included in 1900 for the first time. Last year's display, however, though very good, was easily surpassed by that of this year.

Mr. Thos. Clark, Jedburgh, N.B., officiated as judge, and made the following awards:—

Display of Honey in any form.—1st, Jas. Waddell, Wooler; 2nd, T. Gutherson, Rothbury; 3rd, E. Middlemass, Stamford; v.h.c., J. M. Balmbra, Alnwick.

Twelve 1-lb. Jars Extracted Honey.—1st, S. Temblett, Andover; 2nd, J. Smart, Andover; 3rd, F. Chapman, Wells, Som.

Twelve 1-lb. Jars Heather Honey.—1st, Jonathan Shaw, Whitby; 2nd, J. H. Horn, Bedale, Yorks; 3rd, J. M. Balmbra.

Twelve 1-lb. Sections.—1st, R. W. Patten, Alnwick; 2nd, "General Supply Stores," Woodbridge.

Twelve 1-lb. Heather Sections.—1st, J. M. Balmbra; 2nd, R. W. Patten; 3rd, R. T. Tennant, Thirsk, Yorks.

Interesting and Instructive Exhibit.—1st, Jas. Waddell; 2nd, W. H. Brown, Shrewsbury; 3rd, J. R. Guthers, Thropton, Rothbury.

OPEN TO NORTHUMBERLAND, CUMBERLAND, AND DURHAM ONLY.

Twelve 1-lb. Jars Extracted Honey.—1st, Jas. Waddell; 2nd, J. M. Balmbra; 3rd, R. W. Patten.

Twelve 1-lb. Sections.—1st, Jas. Waddell; 2nd, R. W. Patten.

Twelve 1-lb. Jars Heather Honey.—1st, Jas. Waddell; 2nd, J. L. Dent, Burnhill; 3rd, J. M. Balmbra.

Twelve 1-lb. Heather Sections.—1st and 2nd, Jas. Waddell; 3rd, J. M. Balmbra.

BIOLOGY OF THE HONEY BEE.

Our esteemed contributor, Mr. R. Hamlyn-Harris, writing from Germany, sends the following note, under date November 16:—

"I should like it to be generally understood that the article entitled 'Biology of the Honey Bee: Its Development during the Nineteenth Century,' which has appeared in the last two numbers of the BRITISH BEE JOURNAL, was written by request, and was intended as an address to be delivered at the annual meeting of the Bristol, Somerset, and South Gloucester B.K.A., which meeting was, however, indefinitely postponed on account of the late Queen's death. Alterations in the text were, therefore, necessary to make it suitable for insertion in the BRITISH BEE JOURNAL."

LIFE HISTORY OF BEES, WASPS, AND BACILLI.

SOME NOTES BY HENRY W. BRICE.

A few interesting facts have been ascertained and verified by myself since I last wrote on the above subject which may perhaps be worth recording in your pages. The first item to which I desire to draw attention is *the possibility of Hymenoptera being fecundated in confinement.*—Mr. E. D. Till, of Eynsford, exhibited at the show of the Kent and Sussex B.K.A., held at the Crystal Palace in October last, three large wasps' nests, placed for protection under a glass shade. Shortly after the exhibition had opened I distinctly noticed the act of fertilisation between male wasps and queens whilst crawling over the surface of the nests. I drew the attention of several prominent bee-keepers present to the fact, about which there can be no doubt. At the close of the show I had the privilege of taking two of the three nests home with me, and there fitted them into a box with glass lid. I then fed the wasps (queens and males) on honey, &c., keeping them cosy and warm the while, and have since been able to study the matter out. It is impossible here to give full details, but the fact remains that the queens of *Vespa vulgaris* can be and are fertilised in confinement. Not only so, but they are beyond all question in the state of nature fecundated within or in close proximity to the nest, and not of necessity on the wing, as with *Apis mellifica*; in fact, the last-named method seems extremely improbable. In confirmation of my theory with regard to this, I will give a few details tending to confirm it.

1. The male wasp does not die after or in consequence of the act, nor are the genital organs sacrificed as in the case of the drone bee. In fact, the male wasp can fertilise several queens.

2. It is clear that male wasps are greatly in the minority compared with queens at the mating season.

3. That the males die as soon as food is stopped or extreme cold supervenes. At the time of writing (November 15) most of the male wasps are dead, but the queens (perhaps seventy of them) are still alive, though clearly passing into the dormant or hybernating condition.

4. The queens, after fecundation consume food ravenously; grow very fat, and then gradually pass into the condition noted above.

5. That fecundation takes place only once. This I have verified, so far as the older queens were concerned, as the receptaculum alters very shortly afterwards, and so prevents the possibility of a second fecundation. I have had many queens hatch out under observation, and only the newly-hatched ones were subsequently mated, the older ones passing unnoticed. In examining a wasp-nest full of young brood it is curious to mark the great

difference between the larvæ of wasps and those of the bee. It is well known that the larvæ of the bee feeds by absorption throughout its larval stage, but with wasps it is not so, as the larvæ of young wasps are fed by the mouth. It may be that during the first few days of their existence they may be fed by absorption, but larvæ three days old and onwards are fed by workers and queen *by the mouth*, their heads protruding from their cells, and their little mouths opening and shutting on the least disturbance, putting one exactly in mind of a nest of very young birds. This is one very marked distinction between the two families of wasps and bees.

My second discovery relates to the *flagella* of *Bacillus alvei*. This most difficult part of the anatomy of the bacillus in question has, after careful research and numerous experiments, been distinguished, and I have now a number of microscopic slides showing it with perfect clearness. The *flagella*, amongst other offices, no doubt supplies the means of locomotion to the germ, and forms one of the characteristic features by which we are enabled to distinguish it from other bacterial germs. The *flagella* in this bacillus is exceedingly long and very fine, generally showing as two branches springing from one end, but not infrequently again branching off into a fork towards the point. The *flagella* is much finer in *B. alvei* than in any in other germ I have had under observation.

I obtained this result from cultivations made on gelatine medium, as described in my article on this subject in a former volume of this JOURNAL, using methel violet as the dye, and not decolorising or allowing the slide to remain after being made for some days before ringing and completing it. This method allows the balsam to evaporate and forms a much thinner coating than if it was sealed down at once.—*Thornton Heath, Nov.* 19.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4571.] Referring to the "Testimonial to Mr. Hooker" mentioned on front page of B.J. of the 7th, I trust that your readers will fully support the effort Mr. Garrett has initiated, not necessarily with large amounts, but with plenty of subscribers' names, so that our old and tried friend Mr. John M. Hooker may have a souvenir of the friendship of the bee-keepers of old England in the new England whither he is gone.

The Pan-American Exhibition.—I also think we should all say: Thanks, Mr. Sladen, for your interesting letter *re* the above-named in last week's B.B.J. May it be the earnest of more to come. Meantime I would ask what kind of rack do our Canadian brethren use which allows the one-piece section to "get out of square," as stated? In this country we never have trouble in that way with properly constructed racks, and when using the Root one-piece section I have no trouble in the folding beyond a slight pressure of the hand. On a bench of suitable height for folding I can force the "toothed" ends together without any pressure or hammering of the joint together. Yet the sections are perfectly square when so folded—ready for the foundation to be fixed in by my wife prior to her placing them in the racks. I may say the latter are made of a size and height which ensures that the twenty-one sections in each are *square* when ready for taking off. Even when tiered up three or more racks high on the hive we have no trouble with "out-of-square" sections. In our apiaries, however, we nearly always use two racks only at one time; the third is put on when the first is removed or put on the "clearer."

I noticed recently a recommendation from a B.J. reader that the exit of the "clearer" should be near the outside rim instead of in centre of board as at present, because when cut off from the brood-chamber below, the bees always run round the *sides* of "clearer" board before they notice the "escape" itself in the centre. So long, however, as the present arrangement answers its purpose so admirably, I, for one, shall not adopt the suggestion.

Comparing Notes.—The long winter evenings give time for bee-keepers to overhaul their "notebooks," and having done so, the BEE JOURNAL is the medium by which they may be ventilated and discussed for the general benefit of all. If, therefore, you have something good, some new "dodge" which has increased the pleasure and profit of the "hobby" during the past season, do not shut it up in a musty cupboard or in a damp mildewed hive; let the craft know it, *i.e.*, add it to the other good things chronicled in the pages of the B.B.J. The aim of all should be to benefit the greatest number; to stimulate others perhaps less well placed as regards pasturage, or mayhap not so enthusiastic in bee-keeping. Let us give the best of our experience freely, and this brotherly helpfulness will be an incentive for others to do the same. We shall thus stimulate some who may be getting discouraged by a succession of poor seasons or other untoward circumstances, and contemplate giving up bee-keeping altogether in consequence. A bit of encourage-

ment may renew their old enthusiasm and lead them to success.

Marketing Honey.—Beginners in bee-keeping who have just got their first "take" of honey are often dismayed at the difficulty in finding a market for it. To such I would counsel cleanliness in all details in putting up the produce for customers. If extracted honey is put up in an earthenware jar of the old style, see that it is carefully strained, that no dead flies, or legs and wings of bees, or even particles of wax disfigure the surface of the honey when crystallised. See also that it is tied down with clean "vegetable parchment" and stored in dry room. If sold in 1-lb. jars or in those of smaller size, see that they are clean before filling and well tied down, or that the caps fit tightly. A small, neat label also helps the sale; good honey does not need hiding with a large label. If dealing with sections handle carefully, or the delicate comb-surfaces soon get damaged. Remove every particle of wax and propolis from the wood of section before glassing; the latter protects the honey from injury and keeps it clean and saleable. If your house be near a highway, one of "Rose's" window transparencies announcing "*Honey for Sale*" invites attention from passers-by. Again, a few samples, sections and jars, with a neat ticket, will advertise the fact that pure honey is to be had within. Charge a fair, reasonable price—at least 2d. or 3d. more than you charge the grocer, confectioner, or dairyman; bear in mind that these retailers need some profit. If a ready market is not thus obtained, or if some more "pushful" bee-keeper is retailing his honey from his trap or go-cart, do not get panic-stricken. The advertisement pages of the B.B.J. will most likely find an outlet for any quantity you may have at wholesale prices any week you may like to make known to the trade the quantity and price.—W. WOODLEY, *Beedon, Newbury.*

PRODUCING HEATHER SECTIONS.

[4572.] In response to Mr. Tennant's letter in last week's B.B.J. (page 448), there can, in my opinion, be no doubt that a discussion on this subject would be of great importance to all producers of heather sections. My experience in the production of heather honey extends over ten years, and I have always found that working for extracted heather-honey, when it comes to the selling, is, well, "not in it," compared with sections. I can, therefore, readily understand that the aim of all heather men is to obtain as many sections as possible, and with this end in view I believe there is no system at present known that can be called the "best" means of producing them.

We may make the most careful preparations we can think of, and the weather at this time of the year may easily upset—for a couple of weeks or so—all our calculations. But in order to be successful preparations must be made; then we trust to the weather conditions being favourable. To my mind there are two seasons of the year when this preparation should begin. The first and best time is the month of September in the previous year; the second best about a fortnight before you remove the hives to the moors. As to the first, every colony should be headed by a good, reliable, and fertile queen. Brood-combs put into proper condition for next season's work; plenty of winter stores; a passage-way over tops of combs, and a sound waterproof hive. Given this preparation a good colony of bees will, bar accident, be ready for any honey flow (including heather) that will take place the following season. If you fail in complying with the first conditions, your only chance is to adopt the second, viz., unite your stocks to the required strength before starting to the moors; I say this because weak stocks will never pay for the expense and trouble of moor-going. Having, therefore, your stocks in the proper condition you can materially increase your crop of sections. It is also quite certain that the more sections—ready filled with drawn-out combs—you have to give the bees the greater will be your number completed, and this part of the business should also be provided for beforehand.

A bee-keeper who has not the heather to fall back on will naturally cramp his bees somewhat towards the end of the season, in order to get all the sections possible completed, but not so the man who has the heather to look forward to. The latter, to my mind, should encourage the bees by all the means in his power to fill as many sections as possible with built-out combs, then select the best only for sale and extract all the others; also, if possible, let every hive sent to the moors be supplied with fully worked-out sections. If you can accomplish this, the "best means to obtain heather sections" will, in my opinion, be secured. Full sheets of foundations come next, then follows *plenty of packing* to keep all warm. I prefer six pieces of felt covering for each hive.

Double v. Single Racks.—This is a question that can only be ascertained by the "man on the spot," viz., the manager or the owner of the bees. It is a well ascertained fact that certain stocks in an apiary will always show themselves far in advance in the production of comb honey than others. It therefore follows that these particular stocks would do better with two racks of sections than some others with one only. Particular notice, too, should be taken of the way in which the respective colonies work for some weeks beforehand, you will then have a pretty good idea how many racks may be given to each hive with advantage. One thing to always bear in mind is never give more racks than are likely to be well filled with bees. In other words, regulate the number of racks by the strength of the stock. Only by such calculations as these

carefully thought out, can you arrive at a proper understanding of how to get the best results.

At the time of writing, we in Yorkshire are experiencing very severe floods. My own hives have had a narrow escape, the water rising to the alighting boards. My neighbours' hives, the water rose half way up the body boxes. Happily the flood is beginning to go down. I am afraid we shall hear of some damage amongst bees.—J. RYMER, *Levisham, Yorks, November* 13.

WASPS AND THEIR NESTS.

AMERICAN BEE-KEEPING.

[4573.] Writing to Mr. F. W. L. Sladen for information about wasps, I find my letter owned from New Edinburgh, Canada, and as it contains matter of much interest to bee-keepers I send it for publication, so that others may share in the pleasure of reading it. —E. D. T, *Eynsford, Kent, November* 11.

"Vine Lynn, New Edinburgh,
Ottawa, Canada, October 15, 1901.

DEAR MR. TILL,—I have been away from home for some weeks, and only received your letter of September 27 yesterday. I suppose it is too late now to give any help about the wasps' nest. I have never tried to preserve a wasps' nest myself, but I should anticipate a difficulty in doing this with a nest taken during the period that it is in full working order, on account of the large number of larvæ and pupæ in it. A few days ago I took a splendid example of a tree wasps' nest at Trenton (Ontario), which was in an excellent state for preservation, all the combs being empty and the nest deserted, yet not the least injured. I think that if you could defer taking your wasps' nests until the end of October or the beginning of November, when the combs are more or less empty, you would find no difficulty in preserving it by simply letting it dry, and then it ought to keep any length of time under a glass case in a dry place.

I know of no good book on wasps, but Saunders' 'Hymenoptera Aculeata,' published by Lovell Reeve, Henrietta-street, Covent Garden, gives a full and accurate description of the five or six different British species.

I have been paying visits to a few noted American bee-keepers here, so as to get thoroughly acquainted with American methods of bee-keeping. I have spent a fortnight with the Roots at Medina, and I have seen several prominent men who are making specialities of comb-honey production, extracted-honey production, and queen-rearing. After spending a few days in this city, I hope to make a tour through New York State, where several of the brightest bee-keepers are 'located,' including Doolittle, Coggshall, Elwood; Captain Hetherington (to whom Mr. E. Root has kindly given me letters of introduction); also to Frank Benton and Danzenbacker in Washington. In this way I hope to become thoroughly acquainted with up-to-date American bee-keeping. I feel convinced that we have a great deal to learn from our American cousins. They are a progressive people and are fast coming to the front in almost everything. The evidences of progress throughout the country, and especially in the cities, have simply amazed me. Many of the American bee-keepers' methods and appliances are unsuitable for adoption in England on account of climatic and other differences, but there are others that ought certainly to be valuable to us, and it is to be hoped that our people will give them a fair trial, so that we may not lag behind the times.—F. W. L. SLADEN."

PERSISTENT SWARMING.

[4574.] I was very interested in reading Mr. Lowe's article on the above subject on page 456 last week. I have often felt annoyed when a couple of section racks were filling splendidly to lose half the population by the nuisance of a large swarm issuing from the hive. I say "nuisance" because, even supposing that the swarm is returned after cutting out queen-cells, and inserting six frames fitted with starters only in brood chamber in exchange for others, I find the working energy of the bees gone. I hope the matter will be discussed in B.B.J. by our most successful section-producing bee-keepers. We are told by authorities that swarming can be prevented, and we know it is done. But happy is the bee-keeper who possesses the "knack," and can see at a glance what is needed. One is almost inclined to ask the question, Are bee-keepers born or made?—C. GOULD, *Havilland Hall Farm, Guernsey.*

(*Correspondence continued on page* 466)

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

Our friend Mr. Tollington, whose apiary is pictured on next page, is still another bee-keeper who, after starting as a "skeppist," lost no time in realising the manifold advantages of the modern system of bee-keeping, as exemplified in the frame-hive and all up-to-date improvements. We gather from the notes sent to go along with the picture that he also wisely adopts his method of working to the requirements of his district, and so does not produce what there he finds no demand for, viz., comb-honey. For the rest, his "notes" speak for themselves. He says:—

"I first commenced bee-keeping in the year 1891, when, on hearing of two lots of driven bees that were on the point of being "buried alive!" I purchased them for the modest sum of a couple of shillings. I lost no time in joining both lots together in one skep, thus making up a good strong stock. In the following year this skep sent out a swarm, which I hived in a bar-frame hive. All went on well, and in the spring of 1893 this same skep threw off

another large swarm, the bees of which took it into their heads to decamp, after being hived for four hours. By this time I had learned to see the great advantage of working in frame-hives instead of the old-fashioned skep, so I decided, if possible, to have no more swarms. This was in the summer of 1893, since which time I have had no swarms at all. You will observe from the photo that I prefer the 'Wells' hive before single ones, although I would not advise a beginner to start with the 'Wells.' I have also two other single hives, not seen in the picture. In this district we are not so much favoured with big honey-takes as some of your readers apparently are; the largest 'take' I ever got from one 'Wells' being 106 lb. of extracted honey. When this result was secured I possessed only a couple of 'Wells' hives, and from the two I only got 128 lb. altogether. Should I now desire any increase, I make up stocks either from nuclei or by artificial swarming. We have no demand here for comb-honey in sections, all buyers preferring extracted honey. I make it a rule not to take any honey at all from brood-chambers, but this year I had to make an exception, as two of my 'Wells' hives were overstocked with honey, so that I therefore appropriated four frames of honey out of each. All honey stored above excluders I 'commandeer,' for I find the bees generally keep enough below for their own use. The chief forage of our district is fruit trees, large crops of dandelion, besides a little trefoil and white clover. This year the bees scarcely gathered any honey at all before the month of July opened, so that my crop comes almost entirely from the white clover, and in consequence it is of beautiful colour.

"I find that one of the greatest drawbacks to bee-keeping in my neighbourhood is the trouble from birds. They are a perfect pest right along from February to about the middle of June. The worst offenders are sparrows, starlings, chaffinches, blue-tits, and sometimes swallows, in the order named. This year the swallows have been worse than I have ever seen before. About fifty of them could be seen skimming around and darting along in front of hives, approaching the entrances to within about a yard, snapping up the bees so often that it would be impossible to keep the hives from being depopulated without using a gun. Sometimes robber-bees are very troublesome, partly owing to my having to open entrances to full width in summer, as the apiary faces south with a high wall at back; the effect of all this being that the high temperature necessitates wide entrances.

"The three persons seen in the picture (which was taken without preparation and at a minute's notice) are:—On the right, my uncle, who occasionally wields the smoker when wanted, but much prefers to keep at a distance from the bees; on the left stands my mother, who takes the chief share in managing the honey department of the apiary; and the figure in centre is myself. I conclude by hoping that 1902 will be a still more prosperous season for the craft than 1901."

MR. S. H. TOLLINGTON'S APIARY, HATHERN, NEAR LOUGHBORO', LEICESTERSHIRE.

CORRESPONDENCE.

(*Continued from page 464.*)

SOME ESSEX NOTES.

[4575.] *Judging Exhibits of Honey at Shows.*—Reverting to my concluding "note" with reference to honey and honey judges on page 455 last week, I would say:—In most seasons bees kept in this district regularly secure a small quantity of honey, in colour nearly as white as water, but lacking the brilliancy either of a good sample of honey or of good spring water. This honey, however, possesses very little flavour. But, apart from such exceptions, honey of light colour is certainly admitted on all sides to be generally of good quality, particularly with regard to flavour. In this connection I ask, What in the way of honey can be nicer than well-ripened clover or sainfoin honey, unless it be a blend of the two? Doubtless many Northern bee-men will be of opinion that heather honey beats all others for high quality; but while willing that they should be allowed to divide the honours, it must not be forgotten that we are considering honey as the product is generally known, not as the speciality of a few districts. Judging by its jelly-like consistency, heather honey should be highly nutritious. Can any reliable information be obtained about this in the way of comparisons?

I always feel safe in sending an exhibit to a show where the B.B.K.A. have been asked to appoint a judge, because I know that the honey will thus have its quality proved apart from good appearance only. The means adopted by our best judges for testing the quality of comb-honey is a vast improvement upon those employed a few years ago. Evidence of this may be seen by the illustration of a honey-taster on page 427 of B.B.J. for October 24. A dozen years or so back sections were either judged by appearance only or by cutting out a small piece of comb from the corner. The latter plan, of course, practically spoilt the section for sale or the show-bench. But even then the cutting-out plan could only be accepted as the lesser of two evils, seeing that some persons consider the whitest comb must necessarily contain the best honey. Thus an injustice is likely to be done to both exhibitors and exhibits, and the injustice would be much greater if (through an incompetent judge being employed) prizes are awarded to a nice-looking exhibit that is nothing less than a positive fraud so far as regards containing only pure honey.

Railway Companies and Bee-Keepers.—Early this autumn I sent in a claim to the Great Eastern Railway Company for damage to a parcel of comb-honey, and after some beating about the bush I was shown a reply from the General Manager, in which it was stated that the company do not take any responsibility for honey in sections when they accept it for conveyance over their system. I can only suppose that they include comb-honey in any form.

Later on I wrote the General Manager to say I should be obliged if he would let me know by what authority the company as carriers are able to say that they take no responsibility with regard to comb-honey accepted by them for conveyance over their system? I also added that comb-honey can, if properly packed, be safely carried anywhere if reasonable care be taken. To this letter an acknowledgment was sent by the Superintendent of the line, intimating that the matter should have his attention. I have now received a reply from the last-named official, in which he says that, owing to the exceedingly fragile nature of honey in section, it is accepted by all railway companies solely at the risk of the owner, owing to the great difficulty in carrying it with safety. He then goes on to say they are, of course, within their rights in so doing. I made no reference whatever in my letter to the parcel of honey for damage to which I had claimed from the company some time before; but while the Superintendent gives a rather evasive reply to my question, he goes out of his way to point out that his company were not the contracting carriers of my parcel of honey, ignoring the fact that the parcel was carried at "through rate!" I suppose the railway companies have been putting their heads together over this question.

I am myself unable to go further into this knotty question, but if any bee-keeper possessing more knowledge than myself can inquire further into the extent of the obligations of railway companies in the matter of carrying comb-honey, I think all in the craft will be under an obligation to him.

In replying further to your correspondent "S. Walian" (4545, page 437), I may say that the one hive which I suppose he will start with may want a little attention three times a week in June and July, but before and after that time the bees should not require assistance at such short intervals. Our would-be brother bee-keeper will be able to study the details of bee-keeping from a good text-book during the quiet time now approaching. I am rather glad than otherwise for the sake of the bees that "S. Walian" will, for the present at least, divide his leisure hours in catering for the bees. This question of frequent manipulation calls to my mind a beginner who apparently had no other "hobby" than "the bees;" the consequences were rather serious for both himself and his bees. This beginner (he never reached the rank of bee-keeper proper) used to manipulate his hives every evening, and, I believe, morning too; not only did he open his frame-hive every evening, but a skep he had was invariably lifted too to see what progress had been made since the previous evening!—W. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

THE BRAIN OF THE BEE.

[4576.] I cannot refrain from making a few remarks in reply to "D. M. M.'s" paper on the above subject in last week's BEE JOURNAL (page 458). Your correspondent says: "Some insects show an almost infinitesimal proportion of brain, but I am pleased to say this is not the case with the bee, because it is generally agreed that the size of the brain is in proportion to the development of intelligence, *i.e.*, the more intelligent the creature the larger will be its brain in proportion to its size." I am aware, as "D. M. M." suggests, that this is the general idea of the majority, and one repeatedly hears this kind of thing said, and until almost quite recently was also an idea entertained by scientists. Now, however, it is not possible to accept such a general statement, for the size of the brain is not *necessarily* in proportion to the intelligence, less so in man than perhaps in animals. In fact, the anatomist will tell you that it has been repeatedly proved that some of the greatest men of the past—such as have come to their notice—have had exceedingly small brains. It seems natural enough to suppose that it should be as "D. M. M." has said, but the idea is more than ever losing ground.

In man the windings and complications of the brain are the more important factors and play a part in the development of intelligence. The brain of insects, as well as of other Metazoa, is, ontogennetically and otherwise, dependent upon the development of other parts and organs, and this law of correlation cannot be altogether disregarded on such a point. It is in the finer build and intricate composition of the brain such as histology reveals to us that we must look, I think, for the difference rather than in size.—R. HAMLYN-HARRIS, F.R.M.S., &c, *Tübingen University, Germany, November* 15.

NEW INVENTIONS IN APPLIANCES.

[4577.] In answer to the letter of Mr. W. P. Meadows (4567, page 457), I did not ask him to further criticise my invention, because I thought he had given quite "ventilation" enough to the subject without putting any in the bottom of my swarm-box. I therefore hope he will now "elaborately" strap mine up, and send me an article to answer the same purpose for 6d., which I will gladly remit *in advance* if required. I sent the contrivance to the Conversazione for the purpose of hearing what the members of the B.B.K.A. present had to say about it, not for either advertising or sale purposes. I have never offered one for sale, and am quite satisfied with the result.

Without wishing to occupy your valuable space unnecessarily, I should, however, like Mr. Meadows—since he has thought it worth his while to move in the matter at all, to answer my previous letter on page 446 (November 7), not for my own benefit, but for that of other young bee-keepers who have not been "makers and inventors for twenty years." My point is this: If a man is not a practical bee-keeper, must we suppose that any invention of that man's will not be received by apiculturists? Again, what does Mr. M. call "a practical bee-keeper?" I confess to being only an amateur (this is my fourth season with the bees), yet I manage three apiaries containing in the aggregate over thirty stocks of bees. Moreover, in the spring of this year I examined over 100 stocks within three miles of this place. I am therefore a bit curious to know how much of practical bee-keeping Mr. Meadows has himself done in the same period to constitute the difference between us? Again thanking you for your opinion, and the B.B.K.A. for receiving the article in question.—RICHD. ALLEN, *Tusmore, Bicester, November* 16.

TALL V. SQUARE SECTIONS.

[4578.] The new (new to England, that is) tall sections, I notice, have been getting rather badly "slated" in the several issues of B.B.J. for some time past. Personally, and as a bee-keeper and honey-seller, I do not agree with your correspondent "W. J. R. S.," of Bath, who writes on page 456 last week. I find the tall sections sell quickest, because they look bigger and more taking. They will also, according to my experience, be filled and sealed where the ordinary square will not, and always are filled and sealed quickest in my apiary, while I do not find the bees less ready to take to them than to the square ones. The extra cost of foundation is also very small, while the charge for glasses will not be any more to the bee-keeper.—GEORGE ROSE, *Liverpool, November* 15.

OXFORD AS A BEE DISTRICT.

[4579.] I noticed in B.B.J. not long ago that one of your correspondents regards Oxford as a poor district for honey. This view is, however, hardly right so far as my experience goes. In the town itself there are lime trees growing in every quarter, while all along the Thames (on the south side especially) there are fields covered with white clover. As a matter of fact, I have myself taken three racks—each holding twenty-one 1-lb. sections—from one hive, established in the middle of May this year from bees driven from a skep. From two other stocks I got about 70 lb. of extracted honey. These last named two colonies were driven and transferred at the same time as the first mentioned one, and the honey was all gathered from the limes, as my bees are too far from any white clover to touch that source of forage.

There are a few good districts near hear that I could name, for instance, Shotover Hill and

Boars Hill ; indeed, almost the whole country from here to Banbury contains excellent bee-forage.—J. E. Collier, *Oxford.*

HONEY FROM CORIANDER.

[4580.] It will be within your recollection that, when I called upon you at B.B.J. office in October last, I stated that the peculiarly rank flavour and smell of one of the samples of honey I then showed you was due to *Coll*, and you gave it as your opinion that "Coll" was merely a local name. I find you were right in this. The proper name of the plant is "Coriander." While on the subject, I cannot help saying it does not seem fair of farmers to avail themselves of the services of bees, and, at the same time, spoil the bee-keeping industry. From the fact that Coriander plants are covered with bees when in bloom, it would seem that the blossoms are fertilised by their agency.—Richd. Dutton, *Terling, Witham, Essex.*

[The plant is probably the *Coriandrum sativum* (or Coriander), described in Bentham & Hooker's "British Flora" as "An erect, branching, glabrous annual, 1 to 1½ ft. high, emitting a very disagreeable smell when rubbed." Flowers white, the outer petals larger.—Eds.]

CLEARING SUPERS OF BEES.

The editor of the *Bee-keeper's Review*, one of the most prominent men in our ranks, has said that freeing combs from bees is one of the most laborious parts of the work in producing extracted honey. Probably all will agree with him in this, for it is certainly a great deal of work to brush the bees from each comb separately, and for a number of reasons escape-boards are far from being as satisfactory to clear full-depth extracting stories of bees as they are comb-honey supers. Why this is so I will not take space to explain, for I wish to describe the method I practised last season to clear full-depth extracting stories, also comb-honey supers, and what I shall say about this may, in my opinion, be of more practical value to many who are engaged in our pursuit in a large way than the subscription price to this journal would amount to in twenty-five years.

I feel perfectly free to say this, because the method was not original with me, and I claim no credit whatever for practising and describing it. Rambler, of California, is the man to whom all honour about this is due, and this matter illustrates not only the value of taking our bee-papers, but also of reading all there is in them. For years I have read those rambles of the Rambler, in many of which there was little said about bees, or anything connected with them, and in some of them he had more to say about girls than about bees—not that I have any objection whatever to reading about girls (far from it), but if it was otherwise, I should be many times repaid for reading all he wrote.

If I was offered 50 dols. not to practise this method for ten years, I would not think of accepting.

This thing, or method, Rambler called a "jouncer," and having, I trust, given full credit to its inventor, I will describe my method of using his invention.

Mine is simply a box about 20 in. long, 12 in. wide, and 10 in. high, ends made of lumber 1 in. thick, and the sides of boards ½ in. thick. That is all there is to it—simply a box, which I may term the "jouncer," without top or bottom. Rambler's was better, and made somewhat differently, but mine works well enough.

The method of using it is to set it down in front of a hive which has a super or extracting story we wish to clear of bees. After taking off the cover and giving the bees a few good strong puffs of smoke, the upper story is taken off and set down on the "jouncer," so it rests across the side pieces, which should not be over ½ in. thick. Now, by the cleats, or hand-holes at each end, the super is raised up an inch or so, and then suddenly dropped on the thin side-pieces of the "jouncer." This is repeated a few times, and the results are surprising. With full-depth extracting stories a half bushel or so of bees will be on the ground around the "jouncer."

As already said, this is set right in front of the hive, and the bees soon crawl in. Until one tries it he would not believe the ease and rapidity with which bees can be jounced out in this way, after acquiring the knack of doing it right. It requires more jouncing to clear a super than it does an extracting-super, for many of the bees falling from the combs strike the bottom of the sections, which prevents them from dropping out. With extracting-combs there is none of this trouble, but most of the bees on sections can be jarred out in this way more easily, in my opinion, than supers can be cleared by escape-boards. Besides, what I regard as a great advantage of this plan over using "escapes" is, that the work is done at once, in one operation. I employed this plan exclusively last season with all surplus that came off the hives, and consider it one of the most valuable things I have learned in regard to our pursuit in many years.

Of course, every bee cannot be got rid of in this way, but I pay no attention to what are left. The honey house is right in the yard, with windows arranged to allow bees inside to escape, but preventing outsiders from entering.

When a large number of supers are carried in at one time, they are piled *crosswise* of each other. This is important, to have the bees leave the house and supers readily. When the latter are tiered up tight in the regular way, many of the bees will range up and down the whole tier a long time before feeling convinced that they cannot find their friends and "mother" in some of the supers.

I have seen it advised where the honey house was in or near the yard, to carry in the supers —bees and all—or at least as many of them as would not readily leave by the use of smoke. But this plan, as no doubt those who have practised it in a large way will be willing to testify, is a very poor method to practise. It will work in a small way, but when a good many bees are in each super, and a large number of supers are carried in at one time, there is such a mass of bees inside that they cannot very soon leave by an ordinary "bee-escape"; and when there are such great numbers they do not, for some reason, seem to wish to leave. I have had large bunches of bees hanging to the rafters overhead for days when there was nothing to prevent their escaping, and after being throw outdoors many of them would hover around the door and windows, and again enter if they got a chance. Some may think that the young bees are not old enough to know the location of their hive, but they are bees of all ages—young, middle-aged, and old—but the worst part of this method with section-honey is that much of it may be consumed and damaged by the bees that stay in the house and supers so long, for they do not hesitate to eat what honey they need or rather, apparently, all that they can consume.

On the other hand, the few bees I cannot jounce out leave the house readily, and bother but little, even if extracting is commenced as soon as the supers are carried in.

One might think it would be hard, heavy work to rid full-depth stories well filled in this way. But to a man of average strength it is easy, and it is a great pleasure to see the bees roll out. Still, some who read this and try the plan may regret doing so, for by this method it is easy to break extracting-combs, especially new, unwired ones. I broke a number before I acquired the knack of doing it right, and found out just how hard a jounce new combs could stand.

Sections the combs of which are but slightly attached at the top only, can also be readily broken loose by jouncing; but I use bottom starters in sections, which insures the combs being fastened to the wood more than strong enough to endure what jarring is necessary to clear them of bees. This jouncing does not need to be heavy and hard—a very quick, light jounce will accomplish more. The super should be raised but slightly each time. It is the quick, rapid jars that cause the bees to loosen their grip and roll out.—C. DAVENPORT, in *American Bee Journal*.

Queries and Replies.

[2756] *Re-arranging Hives in Winter.*—I commenced bee-keeping two years ago, but only intended keeping two or three hives. I, however, became so enthusiastic that I could not resist increasing stocks whenever opportunity offered, and the result is that I am now wintering eight hives. But as the increase has always taken place without my having intended or planned it, the hives are not arranged at all in the best positions for future work in respect to nuclei, &c., and I should like this winter to level the ground and set out the hives in new positions according to a systematic plan. 1. Would there be danger of the bees losing themselves or entering wrong hives if I rearranged them in the midst of a spell of bad weather when they had not flown for some time? After how long an interval would it be safe to do this? 2. My bees this summer persisted in storing large quantities of pollen in the shallow-frames and some also in the sections, and in one hive they continued to do so after exchanging two combs of brood for foundation. How can I avoid this without disturbing the brood-chambers often during the summer? 3. Every comb in all the four hives I worked for honey was full of brood, including the outer combs, so that there was no room for storing. Would this prolificacy be because the queens were in their first season, mostly all having been hatched last year? If so, it would be a positive disadvantage to requeen each year, as many recommend, owing to the pollen nuisance in the supers. 4. I have thought that next year I should like to follow the plan I have often seen suggested of putting on a second storey full of combs of hatching-brood a week or two before the honey-flow begins and placing the excluder beneath so as to use the second chamber for a super when the young bees had hatched out. But I have read that the honey stored in combs that have reared much brood is not so good as that in clean combs, and I fear that it would not be fair to my customers to adopt this plan. Will you kindly give me your opinion on the matter? Before concluding I should like to add my testimony to that of so many others as to the great usefulness and interest of your paper to beginners in the craft, and to express the thanks we owe to you for your great patience and courtesy in answering our queries.—A CONSTANT READER, *Birmingham, November* 15.

REPLY.—1. No danger worth taking into account if removal is deferred until such time as severe weather—during winter—will have kept the bees indoors for four weeks or so at a spell. 2. It is rare to hear of bees storing pollen in "large quantities" if queens are prevented from entering surplus-chambers. Are we to understand that the use of queen-excluder does not prevent the mischief complained of? 3. Our invariable advice is to use queen-excluder between brood-nests (or body-boxes) and surplus-chambers. We do not object to any reader who, when producing section-honey, prefers to risk a few spoiled sections rather than incommode the bees—as

they say—by excluder zinc; but—when working for extracted honey, keeping the queen below is with us a *sine quâ non*. 4. The method you refer to is called "doubling," and is fully described in "Guide Book" under that heading. The honey stored in old brood-comb will no doubt in some measure be deteriorated, but hardly in any appreciable degree for ordinary use. If *high* quality is looked for virgin comb is best.

[2757.] *Bees Transferring themselves from Skeps to Frame-Hives.*—I am sending to-day a sample of honey on which I should much like to have your opinion. I get your journal every week, and have been helped very much by what it contains. The sample is part of 14 lb. taken from a new skep after the bees had transferred themselves to a frame-hive. These same bees were a swarm taken by me at the end of May this year, and hived into a large new skep, which they quite filled by July 7. I then put on small skep-super, which was removed thirteen days later with 9 lb. of beautiful honey in it. I then placed the lower or brood-skep above the frames of a new hive, and the bees then transferred themselves by the first week in September. The following week I placed a super-clearer under the parent skep, and when cleared of bees removed it, and from it I secured the 14 lb. of honey as sample sent, and I thought it looked very nice indeed. After extracting, it was put into 2 lb. jars and left open to ripen for several days. It seems now to be more like jelly than liquid honey, it is so thick after standing. Mr. Godson, Hon. Sec. of our Lincs. B.K.A., knows the neighbourhood of Scotter very well, and he thinks it an excellent district for honey. Thanking you very much in anticipation.—G. W. PARKIN, *Scotter, near Lincoln, November* 13.

REPLY.—Your sample is very good indeed. The jelly-like appearance is owing to its being chiefly gathered from heather, the honey from which usually becomes so thick after standing a few days that it will not run from a jar when inverted. A mild-flavoured heather honey like sample should sell very well. We are glad to find the method of allowing bees to transfer themselves is so successful with you, as it usually is when properly done.

Echoes from the Hives.

Glenmay, Isle of Man, November 11, 1901. —A dull day. Temperature 50 deg. At noon, during one minute, I counted 170 bees returning to one of my hives, mostly laden—some very heavily—with pollen from the ivy. This will, no doubt, considerably help to tide the bees over the winter season, soon to begin.—LANCELOT QUAYLE.

PRESS CUTTINGS.

DO BEES INJURE FRUIT?

The possible injury to fruit by bees has been the subject of an exhaustive investigation by the Californian experiment stations. The conclusions arrived at are that, although the mouth parts of bees are so constructed that they might be used for both eating and injuring fruit, all the evidence obtainable points to the fact that it is very seldom that any injury is done.—*Daily Graphic.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

CYMRIC (Winchester).—*Naphthol Beta Solution and Soft Bee-Candy.*—1. There is no mention of "water" in recipe No. 1 on page 114 of "Guide Book;" pure methylated spirit alone being used for liquefying the crystals. The 1-oz. packet, as sent out from this office, is put into an ordinary 8-oz. medicine bottle, marked off on the glass, as shown in illustration. Full directions with regard to the method of making the solution are given in the "Guide Book" and also on each packet. In medicating bee-candy as per recipe No. 4, one tablespoonful of the solution prepared as directed is added to every 10 lb. of sugar used in making the candy. 2. We can only say that by carefully following the directions given in "Guide Book" (page 165), soft candy of the best quality has been made by hundreds of bee-keepers. But there must be *no deviation whatever* from the "directions." If we can add a word to assist matters in some hands, it is to say: withdraw the pan *quite away* from the fire while testing the candy to see if it is sufficiently boiled. If left on the fire while testing it may become overboiled. 3. *Continuous stirring*, while cooling off, is also important.

A. WOOD (Crouch End).—*Bee Association for Middlesex.*—The hon. secretary of the Middlesex B.K.A. is Major Fair, 11, Anlaby-road, Teddington.

ARTHUR FOX (Ulverston).—*Insect Nomenclature.* The insect sent is a male wasp. It is misleading to term the male wasp "a drone." Drone is used for the male bee.

Honey Sample.

C. GOULD (Guernsey).—Your sample is from "mixed" sources. The flavour is good and colour excellent for the show-bench in what is now known as the "medium-coloured" class.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, S.W., on Thursday, the 21st inst., under the presidency of Mr. F. B. White. There were also present the Hon. and Rev. Henry Bligh, Colonel Walker, Major Fair, Messrs. W. Broughton Carr, W. H. Harris, J. H. New, W. F. Reid, E. D. Till, Ernest Walker, T. I. Weston, and the secretary. Miss Gayton, the Rev. W. E. Burkitt, and Mr. C. N. White wrote expressing regret at inability to attend.

The minutes of the previous meeting were read and confirmed.

Mr. John Hooper, Grove Park, Colwyn Bay, was duly elected to membership.

The Chairman, on behalf of the Finance Committee, reported that the accounts for the past month had been examined by the Committee, and the various receipts checked by comparison with the payments to bankers. The report was approved.

A letter was read from Mr. J. M. Hooker reporting his safe arrival in Philadelphia, and making a present to the Association's apiary of a stock of bees in an "Alexandra" hive. The Secretary was instructed to acknowledge the gift with thanks, and to convey to Mr. Hooker the kind remembrances of the members of the Council.

A discussion took place in regard to certain changes in the nomenclature of experts of the various grades, recommended by Mr. W. H. Harris. It was thought that some of the candidates recently coming forward for examination in the third class had insufficient practical experience, and it was resolved to insert a new regulation that no person with less than two years' experience in practical work with bees be eligible as a candidate.

Mr. Edgar Wilson, of Norwood, submitted to inspection by the Council a frame of comb on glass, suited to special purposes of observation. Mr. Wilson was advised to get the comb filled with brood in various stages for exhibition at some of the shows in 1902, and was thanked for his trouble in bringing the comb under the notice of the B.B.K.A.

A letter addressed to the Chairman of the last meeting of the Council was further considered. After some discussion it was, on the motion of Colonel Walker, seconded by Mr. W. Broughton Carr, unanimously resolved: "That it is desirable to establish more intimate relations between the parent society and those affiliated to it, and between the affiliated Associations themselves. That steps be taken to establish an annual conference, to be attended by not more than two delegates from each County Association. That the conference be held in London at a date to be agreed upon, and that its object be to promote the economy and general welfare of the County Associations, both individually and in connection with the parent Association."

The Secretary was instructed to communicate with the County Associations on the matter, and if possible, collect from them copies of the report forms used by experts when on tour amongst members.

Mr. Reid brought forward correspondence with the Law Accident Insurance Society, Limited, and Messrs. C. E. Heath & Co., insurance brokers, respecting the proposed scheme of insurance for bee-keepers. The proposals of the latter were considered to be the more favourable. On the motion of Mr. Weston, the Secretary and Mr. Reid were authorised to draw up for circulation amongst the members of the Association and county societies a circular describing the scheme, with the object of ascertaining what proportion of the members are willing to join in the project.

A resolution passed by those present at the late *Conversazione*, "that the Council of the B.B.K.A. be asked to take steps to prevent products from one and the same apiary gaining more than one prize in any one class at the same show," was discussed, and adjourned for settlement at the December meeting, when the draft schedule of prizes and conditions for the "Royal" Show of 1902 will be prepared.

The next meeting of the Council will take place on Thursday, December 19.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

UTILISING LOW-GRADE HONEY.

A USEFUL LESSON.

[4581.] I have the pleasure of enclosing you three samples of honey. The section and the 1-lb. jar are from our apiary at Levisham. The jar of black honey you will find labelled as to the chief source from whence it came of heather honey, and shall be glad of your kind acceptance of the heather honey for use and the black stuff for examination.

I may say for your information I have taken fully half a ton of this black honey from my bees this year—perhaps rather over—and it may interest some readers to know how I have turned it to advantage in my past season's working. I had 200 brood-frames (standard size)—filled and sealed—of this honey ready for taking off preparatory to preparing for

Heather harvest. I removed them all away, and went carefully through all my "Wells" hives, and found that they had practically no honey at all in the brood-chambers when the bees were commencing to work on the heather; so I arranged what little there was close to the perforated division-board. Then, after the heather season was over and nearly all brood hatched out, I set to work, arranging with the bees to make an exchange of combs, by taking out six brood-frames filled with heather honey from each compartment of every "Wells" hive, and replacing them with the same number of frames of black honey on each side. This disposed of 120 frames of the low-grade honey. I forgot to say nearly the whole of the 200 frames last referred to were new, with combs built out from "Weed" foundation in May last. You will thus understand that this "exchange" (which was "no robbery") yielded me a good lot of heather-honey. The remaining eighty frames of dark stuff were used, some in supplying stores for an extra stock or two, while others were worked into my "W.B.C." hives as an exchange for heather combs. I think it will be admitted I have in a commercial sense made fairly well out of my harvest of black honey. Some of it I sold locally at 3d. per lb., or 2s. 6d. per stone (of 14 lb.). For the rest, when getting all my hives squared, I gave the bees a field day or two, by filling shallow-boxes with combs, set out in the open, and covering the honey with grass; and you may depend upon it they soon cleared all honey from the lot and carried it "indoors."

The whole of my honey-crop is sold out, and I am having to buy to fill repeat orders. In a short time I and wife am having a holiday at the bees' expense.—J. RYMER, *Levisham, November*, 1901.

COMMENTS ON CURRENT TOPICS.

[4582.] *Dull November.*—This month in its early days, with its cold and surly blasts, laid fields and forests bare. Grass lands lost their bright and vivid green tint and became dull and faded. The hill slopes, lately so fair in their gay dress of purple crimson and gold, fast withered and changed to a brown sere and uninviting dulness. The black loam following the track of the ploughshare gave a yet darker and more sombre hue to the landscape. Suddenly, and as if by magic, hill and valley, about the middle of the month, assumed one uniform covering of pure white, and we were, even thus early, cast into mid-winter. The bees, however, were well prepared for the change, and in their snug winter quarters are ready for the severest cold which the season may bring. Thanks to our splendid summer and autumn, and the abundant forage, they have all ample stores and are A1 in that chief requisite to successful wintering-bees.

How to Avoid Smashed Sections.—I find that these are a matter of more frequent occurrence than is generally supposed, and consequently it is no surprise that many never get repeat orders for their honey. I was somewhat puzzled to get a complimentary letter from the buyer of a firm who handles tons of honey every year, praising my packing. I ventured to ask if it was so rare a thing to find honey in comb reach him "as if it had just left the hands of the bee-keeper," and his reply was, "I may say that I generally find it very much broken when sent by rail, and most unsatisfactory. Your system of packing is admirable, and the sections all came to hand in first-class order." Now this "system" is not mine, but that of the JOURNAL, which I learned from it over ten years ago, and have practised ever since, with the result that my comb honey never gets broken. I would gratefully refer any who wish to learn the lesson to excellent articles on the subject in recent volumes by our Editors, by Mr. Woodley, and by Mr. Allan Sharp. By the way, we would welcome some more of the excellent practical articles from the last named gentleman.

Metal Dividers.—I have been cleaning up these lately, and have just reason to complain that those most recently acquired have been very roughly cut and show a raised edge all round the slots. This should not be. It leads to a needless use of propolis which smears and disfigures the wood of sections and the metal of the divider, as well as consuming valuable time when the bees might be better employed. In handling them it feels disagreeable to the touch, and is apt to cut the fingers unless they are handled with care. Another year I must hammer them down flat, but this is labour that the maker might well have spared me. Amongst the "novelties" introduced a few years ago was the "Sheppard" perforated divider. I don't think it has "caught on," though it should be an aid to fuller and freer intercommunication between sections, and so save the bees time and labour. Perhaps some who have used them will inform us if this is so? Some might also give us a hint as to how they clean their dividers when they become stained and fouled from various causes in a way which scraping or washing will not remove?

Crate or Rack as a "Cooler."—In reply to "W. C. G.," Stonehaven (4538), I may say that this year all my racks of sections were added at first *above* the others, and rather in advance of the bees' requirements. Only when these last were taken to voluntarily by the bees were they removed below the partly-filled ones. It is more than a theory with me that this is a great aid to success, and I have generally practised it in very hot seasons, as I find that it prevents loafing, acts as a cooler, assists ventilation, and thus acts as a preventive, or, at least, a deterrent of swarming. I never used queen-excluder, and I *never will!*

The very rare occasions on which a queen invades the supers are not worth consideration, compared with the tax imposed on the free movement of the bees when this needless impediment is added to the already complicated "Chinese puzzle" of a box of sections with dividers. "W. C. G." was late this year in sending his hives to the heather, August 3, and in my touring per bicycle through his county and the neighbouring ones I found universal regret expressed that hives were not despatched a fortnight earlier. Heather was in bloom at an exceptionally early date this year, and yielded its best before August 10.

Don't Jar!—All late and early manipulations in and about hives should if at all possible be avoided. Disturbance of any kind is detrimental to the bees' well-doing during the season of repose, and all digging or necessary work, even in their neighbourhood, should be done gently and quietly so as not to jar the hives. Bees, both in late autumn and early spring, are extra sensitive and careful of the mother bee. Some instinct informing them that all their future well-being depends entirely on her. Therefore, they often hug her to death from the very desire to save her life—thus killing her with kindness—when untimely disturbed. The technical term is they "ball" their queen. When this happens then good-bye to any profit from that colony. I lately saw several hives thoroughly roused unseasonably, and will be very much surprised if several of them are not minus their queens in spring.—D. M. M., *Banff.*

BEE-KEEPING IN WALES.

MY EXPERIENCE OF THE PAST SEASON.

[4583.] *The New Sections.*—I have worked 100 of the new tall sections between separators this season for trial, as I thought that they might possibly be finished in two or three days sooner than the square sections put on at the same time; but in my case I have not found any difference as to time of finish. One year's trial, however, is not enough to decide that point, because in some seasons the bees will finish a rack of 2-lb. sections in the same time as they would a rack of 1-lb. ones. But I must say the narrow sections were all filled and finished quite equal to any hundred of my square ones, and certainly looked more for the money. With regard to weight, they were all over 1 lb.—mostly 17 to 17½ oz.; but this year I had many of the ordinary 4¼ sections 1 15/16 in. wide turning the scale at 1 lb. 4 oz. In order to test the new or narrower sections, I had some of the ordinary 1-lb. and 2-lb. ones cut down to the width of the former, and alternated these with the wide ones when putting them in the racks, as I thought it would be fairer for the same lots of bees to work both sizes at the same time. The result was that the thinner ones were finished no sooner than the wide ones, either in the 1-lb. or 2 lb. racks. They are also not so easily handled, and are more apt to get a fall when glazing them. Then the glasses cost me 6d. per gross more than the ordinary, but that is only a small item. I think, however, that the new sections will never take the place of those we have at present. Some years ago we had a similar "run" with a 4¼ by 1½ in. wide section, the result being dealers had so many of them left on hand that they offered them at about the price of firewood.

Cyprian Bees.—In July last year I bought an imported Cyprian queen which turned out very prolific, and her progeny were very bright and pretty. The stock wintered well, and came out last spring overflowing with bees, and kept up the same condition all the summer. Indeed, it appeared stronger than any colony of bees in my apiary, and yet every one of my 160 stocks yielded me more surplus than the Cyprians. I really do not believe that I got 10 lb. of honey from them; and only the other day I found the stock so nearly starving that I had to give the bees a large cake of candy to keep them going. On the other hand, they are good-tempered if handled properly. I do not prefer to use either smoke or carbolic when manipulating them. They are also first-class defenders of their own hives, but will find their way into other hives and stay there, but not a single black bee will be allowed into their hive. They are also the most inveterate "robbers" I have ever seen, and are always the first to find any "spoil," but I do not know where they put their ill-gotten gains, for, although I have tried several kinds of foreign bees before, none have been with me such poor honey-gatherers, and it is honey we want and not bees.

Queens Lost during Mating Time.—Last spring I had about a dozen cases of queens coming out with the bees for an airing, and thus getting lost. I believe that we lose more queens in this way than we think, and blame the winter for it. After being confined to their hives for some time, the first fine, warm day that comes they rush out as if they were swarming, and during this excitement the queens leave the hive with the bees for an airing and sometimes get lost. I found four queens last spring on the floor not far from their own hives, each surrounded by a small cluster of bees, and the excited condition of these bees made me suspicious, as I knew by their condition that their queens were only just lost. In all these cases I examined the frames, and found brood and eggs in all stages, so that the queens could not have been lost in winter. I have united some of the queenless stocks found in this condition by merely putting them on the top of the next hive without smoke or any disturbance. Sunday, the 10th inst., being a warm day, and the bees having a good airing, Mrs. Berry remarked to me that she "had seen a drone coming out of one of the hives," and that

something must be wrong with it; but in a minute or two we both saw that it was not a drone but the queen that had been seen as she alighted on the entrance-board as we watched the hive.

Unripe Heather Honey.—I have forwarded by this post a sample of unripe, newly-gathered heather honey, which was as thin as water when taken off, and yet you will find it quite jelly-like in consistency. It looks to the eye as if just taken from the hive, being quite clear, but when warm weather comes again next summer it will become first liquid and then thin again. I should like you to warm the sample and see for yourself the thickness of it, which will explain what I wrote some time ago about keeping heather honey from fermenting by mixing the ripe with the unripe. I wrote to you some years ago on this point, but did not send you a sample of it then, and I have never seen any one making a note of it.

The Past Season.—The honey season here has been very good and above the average, but I have not made up my account yet, as I keep notes of all the weights as the honey is disposed of (it is now nearly all sold). I think that this is about the second best season that I have had for the past twenty years. I had four hives in a place by themselves three miles from here, from which the takings were—

Clover.....	233 lb.
Heather	112 „
Total.....	345 lb.

Average for the four 86¼ lb., and one swarm. I believe that several single hives have reached 100 lb.—JOHN BERRY, *Llanrwst, North Wales, November* 23.

SOME ESSEX NOTES.

[4584.] *Wasps Mating in Confinement.*—I am glad to find in the current number of the B.B.J. (page 461) much that is interesting about wasps. Being one of those who actually witnessed the fertilisation of queen wasps referred to by Mr. Brice, I must say that it seems wonderful how short a time is sometimes taken up in exploding a theory to which men of various degrees in the social scale have clung. I believe that down to the present time it has been generally accepted that queen wasps are fertilised in the air, as are queen bees, but here was a complete explosion of the accepted theory in less than two minutes. I had previously noticed that the number of male wasps in a nest is small compared with the number of queens, and also that large batches of queens are reared by wasps in autumn. I have found ten or more hatching at one time. It is no less certain that wasps do not usually rear queens till the season is approaching its end. The specific details enumerated by Mr. Brice on page 461 regarding the fertilisation of queen wasps will doubtless set progressive bee-men thinking, but it must not be forgotten that the ways of wasps and the ways of bees are two quite different things. Since my visit to the Crystal Palace I have pondered over this recent discovery, and while it is our duty to see what way it will assist the progress of modern bee-keeping, I can only conclude by saying that what is possible with wasps is practically impossible with bees.

In the particular case of the wasps at the Crystal Palace I would point out that there were three nests of wasps beneath the glass shade, and large numbers of queens and of male wasps belonging to each respective nest. It is also a generally accepted theory (verified, to my mind, by the results of personal observation of the smaller creatures uncontrolled by man) that females are fertilised by males other than those of their own family or colony. That it is so with wasps there can be little doubt, or there would surely have long ago been the usual evidences of in-breeding.

Whether or not it is possible to ensure the fertilisation of queen bees in confinement is a question that has now been opened afresh, and it will probably be tested in some way. But in adverting to the great difference between wasps and bees we have only to consider for one moment what the consequences would be of shutting up three colonies of bees on their combs along with queens and drones under a glass shade such as confined the three nests of wasps in question. Why, I have seen a young queen bee not only trying to "get at" a rival (on destruction bent) through the partition between attached cells, but after breaking out of her own cell; and though ravenously hungry, I have seen her stay in her cell for some time endeavouring to destroy her rival!

I notice also that Mr. Sladen (No. 4573, page 464) recommends "taking" wasps' nests for preservation at the end of October or early in November, in order to get them free from brood; but I find that wasps' nests begin to get damp and rotten at the bottom quite six weeks earlier than the date mentioned, even in a dry season like the one now closing. The paper-like comb of wasps absorbs moisture much more readily than the wax comb of the honey bee. But it is possible to find a wasps' nest in a straw stack or a straw wall; here it would be in good condition at a much later date.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex.*

BEES IN TROPICAL CLIMATES.

[4585.] I regret that owing to several of my B.B. JOURNALS having miscarried, I have not seen the correspondence regarding the behaviour of the honey-bee when transferred to the tropics, but the theory that loss of instinct for storing is the cause of the smaller quantity harvested cannot be accepted without demur.

Being in a sub-tropical climate here, the conditions are somewhat similar to those existing in the West Indies, and I think it must be admitted that the charges of storing less and not sealing the combs as well as in northern climates, have good foundation, but that the reason for this is as stated is open to question; and it seems to me to have been put forward without considering all the circumstances of the case.

The first point to be considered is naturally the source from which the bee is to gather the nectar, and here we have a state of things which has a great effect upon the question, for although there are flowers, more or less, throughout the year, they bloom in a series, so that there is not at any time that mass of efflorescence such as the clover gives and which is so necessary for a honey crop. A good many, too, although very showy, cannot be worked by the honey-bee, and many also flower at night, fading away when the sun touches them. Further, the heat from 11 a.m. to 3 p.m. in the summer appears to stop the flow of nectar.

On the other hand there are flowers that bloom only at long intervals, and then in great profusion, and then the bees store in large quantities, showing that when there is anything to be had they will put it away.

One has only to watch the hives to dispose of any charge of want of energy. I have seen them returning with pollen in the early dawn before sunrise, and in the evening when it was so dark that I had to put by hand before the entrance to feel them going in, and a stock will build up with great rapidity.

The constant breeding that goes on must also require a large quantity of honey that would otherwise go into the supers. There is no long period of rest in winter, but one finds up country, where the climate is colder, that the harvest is better, and it seems to me that in order to get good honey in quantity a winter sufficiently cold to dry up vegetation and produce a dormant condition is necessary. —A. C. SEWELL, *Berea-road, Durban, South Africa, October* 28.

CAN BEES HEAR?

[4586.] In your report of the Conversazione of the British Bee-keepers' Association (page 421, October 24) I observe that several gentlemen present expressed varying opinions as to the cause of the attack by bees on horses and labourers in what was known at the time as the "Gedling Bee Case." As the report (a very full one) can be referred to, I need not repeat the details, but I may say that, while some speakers attributed the mischief to the noise caused by the men when sharpening the machine-knives, others blamed the offensive smells from the perspiring horses or from crushed vegetable matter as rousing the anger of the bees. Mr. Loveday (on page 455) also blamed offensive smells as the cause of bees stinging animals and men, and says that bees do not take the slightest notice of noises near their hives. Your correspondent, Mr. Sladen, also favours the latter view, and says that no certain organs of hearing have been found in bees (page 152, April 18). He has stated more than once in the B.B.J. that he is unable to find any evidence that these bees were able to perceive sounds. Mr. S. repeats the same on page 142, April 11, quoting Lord Avebury's view in support of his contention. My own experience goes to prove that bees cannot hear, or else they take no notice whatever of sounds. I have whistled and shouted and screamed as loud as I could within six inches of the flight-board, but all my efforts to attract attention were in vain. I made a special effort in shouting loudly one evening in midsummer, after all the bees had returned from the fields, but the peaceful hum of a full colony undisturbed still went on. I then gently touched the alighting-board—an almost imperceptible touch—and instantly the humming stopped and a dozen or more bees were scouting about the entrances to find the cause of disturbance. Thus, while noise was unnoticed, the slightest jar was at once detected. I have watched several times to see the effect railway trains had on bees when shunting, or the whistling and rush of an express passing by, but all passed unheeded. I have also tried various experiments on humble bees, but without effect, so that I have quite convinced myself, and proved to my own satisfaction, that bees cannot hear.—ARTHUR H. HOMERSHAM, *Sturry, near Canterbury, November* 23.

BEES IN YORKSHIRE.

[4587.] In the hope that it may possess interest for some readers, I again send a few lines on our bee-doings in this part. Now that the long nights and dull days are with us again, most good bee-men will be overhauling the appliances used during the past season, and balancing up to see how matters stand for the coming season. The late fine weather has brought winter on us almost before we were aware, our bees flying on several occasions as if in summer. Stocks built up from late "driven lots" and re-queened colonies will have got a good start for wintering well. My own bees came out this spring so lively and strong that I hope for equal good luck in 1902. I only lost two (both found to be queenless) out of over forty stocks. The fruit-bloom did not yield so well as in 1900, our first "take" from that source being fully a fortnight later. The clover-crop and that from the limes, however, were well above the average both in quantity and quality, our best stocks yielding over 40 lb. each. At the close of a good clover season, and having all swarms in a good condition, we moved them to the moors, seven miles away. For a few days the weather was all we could wish for, and the rapid filling of the supers was astonish-

ing. Then came the storms of wind and rain that completely spoiled the heather and brought the season to a close. The bees, however, during the short spell of fine weather gave us an average of twenty well-filled sections per hive, and never had we less unfinished ones. Six swarms in less than a week filled and sealed ten shallow-frames. One stock gave us ten well-filled shallow-frames and fifteen 1-lb. sections from the heather.

On the other hand, many reports in our district show a less good average than in 1900, but, as stated above, mine was far better. Prices also have been better, especially for sections, which ruled 1s. 6d. per dozen more than in most recent seasons. It makes one wish that shallow-frames of comb (which are far easier produced by the bees) would sell anything like so well as do sections. Indeed, I often regard it as almost a shame to put frame after frame of splendid comb-honey from the heather under the press and crush it all up. However, the extra quantity produced in the frames makes up for the lower price. Finally, then, we may sum up our season of 1901 as a successful one, and having got all my hives packed up and ready for winter, I conclude with best wishes to all for 1902.—G. A. Barnes (Third-class Expert, B.B.K.A.), *Thornton Dale, Yorks.*

THE BRAIN OF THE BEE.

[4588.] I think if your correspondent Mr. R. Hamlyn-Harris (4576) will again read my article on "The Brain of the Bee" that he will see we quite agree. My statement, quoted by him, is *generally* correct, even in the light of the latest facts, as well as theories, which were well known to me when I wrote. I find it is fully endorsed by Mr. Cowan. My article quite agrees with Mr. Harris's addendum that "the size of the brain of the bee is not *necessarily* in proportion to the intelligence," as he will see that I admitted the force of that very contention in paragraph 4, where I grant that the ant, with a *smaller* brain, is possessed of *more* intelligence. In my first article of this series I stated they were not to be "severely scientific," and this restrained me from dealing fully with the convoluted parts—"the finer build and intricate composition"—of the brain, though, as will be seen, I indicated their existence.—D. M. Macdonald, *Ballindalloch, Banffs, November* 22.

BEE DOINGS IN HAMPSHIRE.

[4589.] In the hope of being useful or of some interest to B.B.J. readers, I am sending a few notes of this past season's doings in my apiary. In the year 1900 I had fifty-four colonies of bees; from the whole of these I only had three swarms, but being unusually busy that year no account was kept of honey taken, nevertheless I know that the bees paid well.

In the autumn I reduced the number to forty-six by uniting. I afterwards made sure that each stock had 20 lb. to 25 lb. of food for winter made up from natural stores. This done, the bees were covered up warm, and all roofs made water-proof. When all work of this kind is done, one can sit down in ease, knowing that all is done that can be done. We then come to 1901, and early in the year I found two stocks had "gone down," one with moth, the other through being queenless. The other forty-four, however, came out well, and started to work in earnest the first chance they had. I did not get a single swarm this last season, but it has been the best year for honey I have had since I first located at St. Cross about twenty years ago. I began in the craft in 1861, and have kept bees without a break since that date. At the start I was in even a better district than this, viz., about five miles from Stonehenge.

With regard to size of hives, I would like to say I consider a hive containing only ten standard frames is too small. Many of mine have fifteen, some eighteen, and from hives with that number we get good returns of surplus. I bought a hive made from an old tea chest, holding eighteen frames deeper than the "Standard." For three years this hive has not swarmed, and the combs are so fixed by being worked cross-ways, that I cannot move them to clean it. But the bees work well in it. This year I secured eighty-four well-finished sections from it, which, I think, speaks well for large hives. Another hive holding seventeen frames gave 93 lb. extracted honey. I have taken the Bee Journal ever since I have been in Winchester and greatly value the writings of its various contributors. I think they aim at helping forward an industry that will help the thrifty if worked on right lines.

Tall sections I have not tried, yet it seems to me that new things are often advocated only to fail in practice, and it damps one's ardour when money is spent to no purpose. We should help one another when a chance occurs; for we can never measure what a kindly act may lead to. In conclusion, I may say most of my honey is sold. I have no difficulty in selling at 7s. 6d., and 8s. per dozen, the price secured this year. Without having kept a separate account of hives my gross returns are good and satisfactory to myself, at least so far as my apiary is concerned.—F. Mower, *St. Cross, Winchester, November* 22.

MORE "NOTES BY THE WAY."

[4590.] *Comparing Notes.*—Mr. Woodley's advice (on page 462) with regard to comparison of notes is very good, provided all bee-keepers are not like myself. I keep a "note-book"

showing work done day by day, condition of hives at each examination, quantity of honey from each hive, when weighed after extracting, notes of condition of weather, and much that I thought would be useful. I finished extracting, and after entering up the condition of hives for the winter, I now find I have *lost* this valuable record. Memory must therefore fill the gap, with the assistance of a few notes in my garden diary, such as would have been better if entered in a note-book.

Wasps' Nests.—The season has been a good one *for wasps*. I found a nest being built in a hive-roof, the ventilating hole in roof affording an entrance. When discovered the nest was about the size of an egg. In a week it grew to be 5 in. through. I then gave it a sulphur bath, and finally, after carefully removing the nest without injury, made a case for it. The entrance was at the bottom, and there were three layers of cells, and from a cut an inch wide in the side the walls the nest is seen to be composed of seven layers of thin "paper." Quite an interest has been created by its perfect form. I also took a beautiful wasp nest from a thatched roof, and altogether had five of these nests intact at one time, the largest being about the size of a football. Wasps invaded my extracting room, and seemed almost to live there; at night they hung on the walls. I destroyed these "lodgers" by making a solution of cyanide of potassium and sponging the window. Then on making the wasps fly, every one flew to the light, and in an incredibly short time the room was cleared, for all that touched the poison died.

The Honey Season.—My "takes" of honey have not been large; the best from one stock was eighty good sections and 10 lb. of extracted. Personally, I cannot make much of the "Wells" system with my hives of that type. In the last week of October I found the bees occupied one chamber only, and in two other "Wells" the queens of one side were dead, I suppose.

Solar Wax-Extractors.—This extractor is certainly worth having. I have a home-made one, lined with zinc, with a double sheet of 21-oz. glass as a lid. One day in July the thermometer inside stood at 204 degs.

Wax Moth.—Early in June I was asked to visit a hive "needing attention." It was alive with moth and grubs through brood and section combs alike, quilts as well. We had a fire and burnt them. Later on, two skeps at two other places shared the same fate. I hived for a friend a remarkably large swarm on June 2. Eight days later the bees covered sixteen frames, two racks of well-filled sections, and 20 or 30 lb. of extracted honey were eventually obtained from this swarm.

Robbing.—My hives stand about 4 ft. apart, and last year I had several cases of robbing. This year I planted three or four Jerusalem artichokes between each of the hives, thus secluding them and giving shade; result has been "no robbing." I think the artichoke fine for bee-hedges; it is only a summer plant, so we can get all the light and warmth of winter, yet have protection and shade in summer.

Railway Companies and Charges.—Mr. Loveday mentions a great grievance (on page 466)—one, I fear, we can at present offer no solution to. I had a friend here this year who urges the necessity of a "railway traders' and passengers' protection society." We all are traders or passengers, and the society could become national. A small subscription to ensure membership, and then with the funds maintain an office where all Acts relating to railway companies are stored, where the public could fight the companies, and a good lawyer could be retained to make that branch his special study, watch railway Bills through the House, &c. Instead of Mr. Loveday having to be put down with the loss of his honey, or, if he "county courts," to have to pay several times the value of the honey and then get no justice, he could hand his case over to the society, which would act as well for small as large amounts, and the very fact that such a society existed would settle many claims differently to how they are disposed of now. Where is the man or men that will render a national service? Here is a chance for them.

Honey Sales.—Honey still keeps selling. My prices are: Sections in carboard case, 1s.; 1-lb. glass tie-over jars, 10d.; 8-oz. tie-over jars, 6½d.; 2 oz., 2½d. The latter are in great demand and sell well; they are for those who use honey medicinally, and thus are handy, but they are irritating to tie up. I managed to buy a few gross of 2 oz. jars cheap, and now shall continue to sell them. I always exhibit honey in Lynn market on my flower stall, and effect a sale even when my prices are several pence above the shops.

This neighbourhood is fast becoming a bulb country. Hyacinths are now propagated and raised superior to Dutch. I have just finished planting a large batch of hyacinths; these are useful in the spring for bees. It is very interesting to note the various coloured pollens they bring from the hyacinths.—W. J. BELDERSON, *Terrington St. Clement, Lynn, November 23.*

RAILWAY CO.'S AND BEE-KEEPERS.

[4591.] In reply to Mr. Loveday (on page 466) for information on this subject, I beg to say we receive and send many parcels of comb-honey by rail, and when damaged the company involved invariably tries to shirk its responsibility, but we always get compensation in the end. It is important that the sheet be *not signed* till you are satisfied of the goods being in good condition; if damaged, we refuse to accept them until the station master or some responsible person from the company has seen the damage.—W. & S., *Lowestoft, November 22.*

ROBBING IN THE APIARY.

HONEY-PACKAGES.

I would like to be allowed to say a few more words in regard to robbing. Last year I wrote an article in which I gave some of my experiences in regard to bees robbing, and afterwards in some comments that were made about it, it was said, in effect, that the advice I gave on the subject was about like advising one to scatter live coals among dry straw. But this is a mistake, for I did not advise any one to practise my methods ; in fact, I remember that I plainly said that I did not advise any one to follow my practice. I only gave my experience in regard to the matter; but what I wish to say is that, in my opinion, it will some time be known, and generally recognised by bee-keepers, that a colony of bees of average strength (and, I feel tempted to say, quite weak colonies if in normal condition) are never, as the saying is, "cleaned out by robbers," or never molested by them enough to injure them materially in ony way, no matter what has been done to induce robbing, or what the natural provocation to the same may be, except when they are first set out in the spring.

I have watched this matter very closely the last ten years, and, besides, from two different incidents I have witnessed, I know that a colony of average strength will, before succumbing to robbers, make such a fight as few would imagine them capable of doing. One of these incidents may be of enough interest for me to take space to describe briefly.

It occurred in an out yard during a time of great scarcity. A hive was in some manner tipped over, off its stand, so that it lay on one side, with the whole top and bottom fully exposed. Two heavy combs of honey were broken. How long it had lain in this position I do not know.

When I arrived, the air near it was black with bees, and thousands were dead on the ground around it ; but the robbers, so far as I could determine, had secured but very little of these stores, so gallantly defended, and the colony was far from being whipped or defeated, though no doubt they would have been if the hive had laid in this position long enough. I know that colonies, sometimes quite strong ones, are often cleaned out by robbers, but they are colonies that are not in a normal condition. Usually in such cases they are hopelessly queenless, and make but little effort to resist robbers.

PAPER PACKAGES FOR EXTRACTED HONEY.

There has been a good deal of discussion the last two years or so in regard to the best package for extracted honey. I have read with much interest what has been said in regard to the matter, and I envy those who are able to make a success of using barrels, for I have never been able to get any kind of a barrel that would hold honey in a warm, dry room without leaking. Even when I coated the inside ¼ in. thick with wax or paraffin it would soon crack and allow the honey to ooze out between the staves. But my failure in this line was not because the barrels were not dry enough ; I have kept both those made from hard and soft wood in a dry, warm room for two years, and then after driving the hoops as tight as could possibly be done, they would soon commence to leak after honey was put in them. I have not only tried different kinds, but a year ago last fall I had three large ones made to order, which were warranted not to leak.

I have, however, made what might be called a success of sacking up extracted honey the same as one would wheat or other grain. Last fall at one time I had about 1,000 lb. sacked up. Possibly in the future extracted honey may be shipped in sacks instead of cans or barrels.

The way I came to put honey in sacks was this: The three warranted barrels mentioned, which held about 500 lb. each, got to leaking soon after being filled—two of them badly. I had nothing on hand to put much of the honey into, but I had observed when using the no-drip shipping cases that if a section become broken or marred so the honey ran down on the manilla paper tray in the bottom of the case, this paper seemed to hold it as well as a tin tray would ; and I had noticed, at the place where I board, a number of very heavy paper sacks in which flour had been purchased. I found they had a large number of these laid by, the accumulation of years. The paper they were made of was very much heavier and tougher than that used in shipping-cases, but, instead of being glazed or smooth like the latter, it was slightly rough or porous looking. So I took a couple of these sacks and thoroughly coated the insides with beeswax, and filled them with honey. They held it all right, and soon afterwards enough sacks were waxed to hold all the honey the two worst leaking barrels contained.

The honey remained in some of the sacks nearly a month, and no leakage whatever occurred, except with one sack, and this was owing to a defect in the sack.

My method of waxing the inside was to pour a large quantity of melted wax in a sack, then with one hand gather up the mouth of the sack tight, and with the other hand take hold of the bottom at one corner, so as to turn it bottom side up and around in such a way that the wax would reach and coat all parts of the inside. This had to be done quickly, or a good deal of wax would adhere to a sack. It took considerable to wax them, any way, but after the honey was taken out, the sacks were cut up and boiled in water, by this means getting all the wax back again.

My success with these large sacks led me later to try small sacks for the retail trade. A good many who come to the house for a few pounds of honey never bring anything to put

it in; few of them will buy a pail or jar, and if I lend them a dish to carry it in all of them will readily agree to return it and then never do so. I have many customers in town to whom I carry a few pounds of extracted honey, and in this case I either have to wait for them to empty the dish I carry it in, or else call for it again, when, if there is any one at home, we may perhaps find it has been filled with something else. For instance, last season one lady ordered 3 lb.; I had nothing smaller than a gallon jar on hand, so I delivered it in that. When I called for the jar some time afterwards it was full of butter. She said she, of course, supposed the jar went with the honey. My experiments last season lead me to believe that I can reach this class of customers with a package that will go with the honey, for it will cost only about half a cent aside from some work in preparing it, which can be done during the leisure time in winter; a package that will give satisfaction to the customer, and be practically as safe to carry or deliver the honey in as one made of tin.—C. DAVENPORT, in *American Bee Journal.*

Queries and Replies.

[2758.] *Insurance Fund for Bee-keepers, and Fixing Prices for Bees.*—1. When may we expect the question of insurance for bee-keepers aggainst loss for damage by bee-stings? 2. May I suggest that you request bee-keepers willing to pay for such insurance send in their names to you? 3. May I also inquire if you don't think it advisable to give readers some advice with regard to realising a good retail price for stocks, swarms, and queens? Wholesale prices must, of course, be low. About a dozen years ago, I think it was supposed that good queens could not be raised and tested for 2s. 6d. each wholesale, except at a loss. Now we sometimes see them advertised in your pages at less than 2s. 6d. retail. There is, of couse, no difficulty in selling at ruinous prices.—W. H. PRIOR, *Welwyn, Herts, November* 20.

REPLY.—1 and 2. The question of an "Insurance Fund" for bee-keepers to assist in meeting claims for damage caused by bees is, and has for some time been, engaging the anxious attention of the Council of the B B K A., and if a practicable scheme can be formulated it will, no doubt, be published in our columns. An opportunity will then be afforded for all who desire to support such a scheme to come forward and say so. This will, we think, be the more satisfactory way of meeting the case than requesting names to be forwarded to us as suggested. 3. The question is so entirely one of personal opinion, and as opinions as to what constitutes "a good retail price" are so divergent, it is obviously beyond us to offer advice likely to be taken by all readers. No doubt, a dozen years or more ago, bees, hives, and honey respectively realised better prices than they do now, consequently the bee-keeper and the appliance-dealer of to-day has to face things as he finds them. With regard to rearing and selling tested queens, to advertise them at less than 2s. 6d. each retail, we are not aware that such are advertised in our pages, but if they were we should not be able to alter the fact.

[2759.] *Making Honey-vinegar.*—I should feel greatly obliged to you if you would kindly give me a little information on the making of honey-vinegar. 1. I think I have seen it stated that a licence is by law required before commencing operations. If this is so, what is the amount of such licence? I have, perhaps, 100 lb. of honey; some of it is two years old and is in a state of fermentation. It is, of course, useless for sale as honey, but I want to turn it into money if possible. If, however, I have to pay a considerable amount for licence and then my venture prove a failure, it would be better to throw the whole lot away. 2. Would 2 lb. of honey per gallon be enough? In a previous number of BEE JOURNAL an American writer recommended one pint of honey to one gallon of water; this would be about 1 lb. 12 oz. 3. Would it be better to boil the mixture? If so, I could do this by means of a jet of steam from boiler. The honey is in a soft granulated state. Any hints as to its proper management would be thankfully received.—ABBOT, *Staffs, November* 20.

REPLY.—1. The manufacture of honey-vinegar requires no licence. At least we have heard of such being necessary, and many bee-keepers make it. You may, therefore, dismiss this from your calculations. 2. Yes, according to most authorities. The American recipe you refer to is probably that in B.J. of September 17, 1896, page 379. It can be had from this office for 1½d. The best method of making honey-vinegar is that given in the book published by Rev. G. W. Bancks, Darenth, Dartford. 3. Boiling honey will obviously spoil it for vinegar making.

[2760.] *A Beginner's Queries.*—I intend to start bee-keeping shortly and as one of your most recent subscribers will be much obliged if you will answer one or two questions. I propose to start by purchasing a stock in a "W.B.C." hive from a well-known dealer in this county and ask:—1. When is the best time to buy? I live about two miles from a manufacturing town, but I am completely surrounded by pasture lands. Now, though I intend to send my bees to the neighbouring moors, I am naturally anxious to get some extracted honey before the heather season. Clover, I am sorry to say, is very scarce, but there is plenty of whitethorn about, and the fields are covered with dandelion and crows-foot, while one field in particular I notice is yellow with the buttercups. 2. Would my bees be able to take sufficient honey from

these to be even self-supporting? 3. Is it worth while sowing in the garden, say, a patch 20 yds. square of some honey-yielding plant? I fear these questions will have been asked many times before, but I have not the advantage of seeing your replies to them in back numbers. Here is, I believe, a more original question: The site for my apiary is about 10 yds. from a drying-ground which "can't be spared." 4. Would the flapping of the drying apparel anger the bees, and in consequence endanger the beauty of the "maiden hanging out the clothes?"—BEEIST, *Darwen, Lancs, November* 21.

REPLY.—1. The *best* time to buy stocks of bees is March or April. They can then be judged after wintering safely, and also by the promise of "fitness," or otherwise, for a good season's work. 2. There should be no difficulty in the bees being able to support themselves, apart from white clover, if the season is fairly good. 3. In such a district as we judge yours to be 20 square yards of ground, filled with selected plants for a succession of bee-forage, would be very helpful, pending the heather season. 4. No; the risk of angering the bees may be dismissed, as may also the danger to the "beauty of the maiden" referred to. But with regard to the "clothes" and the *temper* of the said "maiden" we are less sure, because unless the maiden and the bee-keeper arranged matters amicably, so as to avoid "spotting" the clothes by the bees voiding their *excreta* in spring when taking an airing flight "naughty cuss-words" might arise between the parties concerned.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. ECCLES (Wakefield).—*The Deposit System: Sending Skeps by Rail in Winter.*—1. Full particulars of the system will be found on page iii. 2. Winter-time is the best season for sending bees by rail, if they are kept confined till after sundown before being released.

DAVID DAVIES (Llandilo, North Wales).—Neither the BRITISH BEE JOURNAL nor its proprietor issue a catalogue, not being dealers in appliances or bee-goods of any kind. Any of our advertisers will forward a catalogue if written to.

O. PFLEIDERER (London, S.E.).—*Bee-keeping in the West Indies.*—1. We have never heard of any book dealing with this subject. 2. The bee cultivated in Jamaica is the *Apis mellifica*, or ordinary hive bee. 3. Jamaican honey is, we think, about equal in quality with that from Chili and South America generally. It also stands on about the same footing with regard to "finding a ready market in this country." We are unable to say how the market is in "other countries." 4. This query we print in full as written by yourself:—"I have heard that during a twelvemonth a single hive has turned into twenty distinct colonies. Can this be right? The honey season must last nearly all the year round to cause this result from a bee of our ordinary English black type of bee."

In reply we can only say it is one more of the absurd stories about the possibilities of what bees can do in this country.

WORKER BEE (Langford).—*Plan of Bee-House.*—We are having a line-block made from your sketch, and will insert it in an early issue. It would, however, be helpful to readers if a few more details as to construction were sent, to go along with the plan in print. If not too much trouble, kindly forward same.

Honey Samples.

E. C. (Newton Abbot).—Of samples sent No. 1 is only second grade in quality. There is a disagreeable "tack" in its flavour, attributable, no doubt, to some plant growing near by, but which we cannot recognise. No. 2 is a capital sample of heather honey, good in all respects.

M. H. (Buckfast, Devon).—The several samples received are all from mixed sources, none having any characteristic flavour by which its source may be traced. No. 1, though gathered when limes are in bloom, has none of the flavour or colour of lime-blossom honey about it. Deep yellow in colour and only fair in flavour, its quality is only medium. No. 2, still deeper in colour, is not quite equal to No. 1; it is also granulating. No. 3, nearly solid, much same as No. 2, but coarser in flavour. No. 4, though poor in aroma, is by far the best sample of all for table use. It is largely from heather, and though granulated almost solid, it may be described as a very fair mild-flavoured heather honey.

JOHN HUMPHRYS (Ruthin).—Sample is good enough for any show; excellent in colour and flavour, while the aroma is quite distinct and good, although, as you say, the sample has been reliquefied. We are not a bit surprised to hear of your having "already sold every ounce of it at a good price."

Editorial, Notices, &c.

ANCIENT BEE-KEEPING.

BEES AND HONEY 800 YEARS AGO.

A constantly recurring and pleasing phase of the enthusiasm with which the thoroughgoing and thoughtful student of bee-keeping regards his favourite hobby is the keen interest taken in matters connected with bee-craft in the olden time. This characteristic comes to the front plainly from time to time in our pages, recent notable examples being the series of articles on the subject in the closing numbers of our volume for 1900, and continued for a great part of the year now ending.

We refer to the "Fugitive Papers on Ancient Bee-Books," by the Rev. A. A. Headley, beginning in November, 1900, and ending in January of this year. Then followed an equally exhaustive series of articles on "Ancient Bee-Books," by Colonel H. J. O. Walker, known in print as "South Devon Enthusiast," along with papers by other contributors. All of these useful and interesting papers breathe the same spirit, viz., an intense heartiness and enthusiasm on the part of the several authors in bees "ancient and modern." Deep research into the writings of men who lived ages ago and into the folk-lore relating to bee-keeping in past ages seem to yield a pleasure easily understood by those concerned, and we can imagine the interest with which they will learn something to-day of bees and honey in the days when the Domesday Book was being compiled.

We are led to these observations by an exhaustive review in the *Standard* dealing with the latest volume of "The Victorian History of English Counties,"* viz., the one relating to Worcestershire, wherein we find how important a part its Cathedral and its Monastery played in those remote times, and how interesting to bee-keepers as showing the position of bees and bee-keeping in the old days.

We read that :—

A cartulary, or land book, compiled by Heming, a monk of the Cathedral Monastery, is said to be among the best of its kind, if not the very best. It seems to have been drawn up about the time of Henry I., and comprehends the Charters in existence before the Conquest, documents and narratives contemporary with that event, and a Survey of the lands held by the Monastery of Worcester at the time of its composition. The importance of Worcestershire to the student of our national life and institutions may be judged of by the following statement :—

"Problems of assessment, problems of jurisdiction, problems connected with the tenure of land, are in turn raised and partly solved by the evidence which Worcestershire affords; the growth of a feudal system has been detected in its Church lands; the whole hierarchy of rural life, from the great theyn and the free tenant to the swineherd, the bondwoman, and the serf, receives illustration from its survey. For Worcestershire alone in England are preserved the names of the Domesday Commissioners, in whose presence bishop and abbot, baron and rapacious sheriff, clamoured and wrangled alike, whether as spoilers or despoiled. Indeed, the personal touches revealed here by the records constitute, doubtless for most readers, their greatest attraction and value."

We also learn that :—

"It was one peculiarity of Worcestershire, and some other counties on the Welsh borders, that rent was paid in honey, and woodlands accordingly were valuable, among other things, for the honey they yielded. From one of his manors Edward the Confessor received yearly fifty pints of honey as well as the money rent. Much of this honey was taken from the wild insects, who made their hives in the hollow trees. But tame bees were kept for the same purpose, and the bee-churl was a well-known character among the Saxon peasantry. Mead, of course, was made from honey, and the Welsh were very partial to that beverage. But so also were the Saxons, and it seems hardly a sufficient explanation of the fact that honey-rents were more common in Wales and on the Welsh border than elsewhere."

* "The Victoria History of the Counties of England." Edited by H. Arthur Doubleday. A History of Worcestershire. Vol. I.

TESTIMONIAL TO MR. HOOKER.

We have pleasure is notifying the following additions to list of subscribers to the above fund published in our issues of October 17 and November 7 respectively :—

The Baroness Burdett-Coutts, President B.B.K.A.
Rev. R. M. Lamb.
R. Hamlyn-Harris.
Abbott Brothers.
Wm. Woodley.
P. Scattergood.
J. R. Truss.
J. Rymer.
G. Newman.
H. Saxelby.
W. A. Woods.

As it is proposed to close the list shortly we

will be glad if intending donors will forward names without delay.

Subscriptions may be sent to the Editors of the BRITISH BEE JOURNAL, 17, King William-street, Strand, W.C.; or to Mr. JESSE GARRATT, Hon. Secretary, *Meopham, Kent.*

THE FINAL SHOW FOR 1901.

HONEY SHOW AT LUDLOW, SALOP.

The seventh annual honey show in connection with the Ludlow Chrysanthemum and Fruit Society was held in the Town Hall, Ludlow, on November 14, under the presidency of Lord Windsor. Excellent arrangements were made by the Secretaries, Mr. Jno. Palmer and Mr. E. H. Wood. The entries compared favourably with last year, and the honey was of splendid quality, both in the comb and extracted.

Messrs. Alfred Watkins, H. Lloyd, and H. J. Farmer officiated as judges there, the prizes awarded being as follows :—

Six 1-lb. Jars Extracted Honey.—1st, A. G. Preen, Nessclife; 2nd, S. Temblett, Andover, Hants; 3rd, T. Salter, Shrewsbury; v.h.c., W. Tomkins, Burghill.

Six 1-lb. Sections.—1st, A. Bayley, Wordsley, Stourbridge; 2nd, A. G. Preen; 3rd, H. J. Wootton; h.c., T. Salter.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

WORKING FOR HEATHER HONEY.

[4592.] It is useless to lay down any hard-and-fast, cast-iron laws or rules in working for heather honey, and say if these are observed a large surplus is certain to be secured. So many minor features—many of them beyond the bee-keeper's full control—affect these general laws that they frequently cease to operate. Although certain rules may be set down as fundamental and of primary importance, others of equal value too often neutralise them. Thus the man is often at the mercy of the bees; they in their turn are dependent on the forage. All three of these, again, are subject to climatic influences. Consequently calculations are falsified, preparations carefully made prove abortive, and our best care and attention go unrewarded. Still we go on working, planning, and hoping; and, thank goodness, frequently we have a rich and abundant reward. In this spirit, then, I offer a few thoughts on the subject which may serve to initiate a discussion, when we may glean some wisdom from the counsellors who are willing to give us of their experience.

1. It is a truism that one strong stock is worth two or three even fairly strong ones. Our ideal should be to get all our stocks intended to be worked for heather surplus raised to this position just before the heather comes into bloom. If they are not naturally able to attain to this degree of perfection we must *make* them. It is of primary importance that we should have powerful colonies. These colonies, when almost at the "boiling point," can be relied on, if honey is to be had anywhere near and if weather permits foraging, to roll in the honey and consign it to the supers, whereas weaker colonies rarely do more than fill up the brood-combs with just sufficient stores for wintering. Here, then, is our ideal to work for, and as it mainly depends upon the bee-keeper, we have only ourselves to blame if we fall short of it. Many other factors are beyond our control, but this is not so. We are the bees' masters, and can bring each colony up to the pink of perfection just at the psychological moment. In this way, then, and working on the hypothesis that *one* strong colony is worth *three* weaker ones, I myself proceed just before the heather flow to manipulate all hives to be sent to the heather (or to be wrought for heather surplus at home), and bring them up to this ideal pitch of perfection. The opening days of August would see all these with a limited number of frames crammed with almost hatching brood and strong in bees almost to overflowing. In working for this much-to-be-desired pitch of attainment several minor points deserve attention. (*a*) Too many frames in the brood body give the queen too much room for breeding at a time when we desire our colony to devote its main energies to honey storing. Also, unless they are limited the bees store too much below when we want it all consigned upstairs. So I would use no more than nine frames. (*b*) Swarming at this time would go far to shatter our hopes of surplus just as they are at their brightest; so every device tending in the direction of hindering it should be resorted to. (*c*) It is important that our force of bees should be of the right kind to take the very best advantage of the flow and secure us our harvest in the best condition for yielding the best returns and so as to produce the best prices. The question of race comes in here, for it is well known that certain of them are bad cappers of comb honey, and these should not be used for working in heather districts, however excellent they prove themselves as honey-getters where extracting is practised. This question of capping is an important one and deserving of more attention than it receives. (*d*) Young queens are a necessity, for three reasons amongst many more:—1.

They enable us to secure our large population with little or no manipulation. 2. They lay few or no drone eggs, as old mothers do, so their produce are all workers. 3. They have little tendency to swarm at the heather. All these are important factors in securing and retaining our colonies at the point desiderated.

2. I never feed. My theory may be right or wrong, but it is a confirmed belief with me that in heather districts, where bees are desired to be at their strongest about the middle of August, early stimulating brings the queen to a premature pause in her egg-laying just when we want her to be at her best. She has attained the crest of the wave too soon. The colony is therefore at its strongest just before the full flow, and has begun to dwindle exactly when we want them to be most numerous. So we just miss the "tide" which in the affairs of bees, as of men, "leads on to fortune." This is only one phase of the feeding question, but a second, not of less importance, has to be noticed. Heavy feeding between the clover and heather harvests is "reprehensible." I waive the question for the present whether any of it may be taken upstairs, and I may perhaps grant that it *may* secure a little more (pure ?) surplus. It, however, occupies the cells required by the queen, and so acts to the detriment of the colony. If it does a little temporary good, it is at the cost of a great permanent harm. Why, then, fill these frames with "pernicious" syrup when you can have them one solid block of almost hatching brood, which keeps up the strength of the colony and replaces the wear and tear consequent on the hard work on the heather ?

3. The bee-keeper has now, in these days of cheap, thin, pure foundation, the power to assist his bees by giving only full sheets in the sections. Small scraps or "starters," or even half sheets, should not be tolerated. They are a severe tax on the bees' time, energy, and accumulated stores when every day or even hour counts for success or failure. Even better, he can by various devices secure that a large percentage of the sections shall be filled with ready-built comb. As August advances bees show a reluctance to do much comb-building, and surplus is largely augmented when these ready-built combs are on hand. All who work for heather honey should make it their aim to secure as many combed sections as they possibly can by getting bees to build them out early in the season, and clearing out all that are not well finished at the end of the clover harvest.

4. The bee-keeper can further aid his bees in two ways. In hot weather ventilation must be attended to, and here several of the new hives lately produced assist him, and, by their construction and ease in manipulation, aid him in avoiding that other bugbear—swarming. But I think where too many err is in leaving their supers insufficiently wrapped up when the lengthening nights begin to chill, after, perhaps, a day of excessive heat. I have frequently seen bees in sections covered on top only by one or two layers of very thin cloth, often badly laid on. As the season advances, the warmer the sections are covered up the better for the bees and for the bee-man's chances of a large surplus. I reduce as early in August as possible, and carefully wrap up between the inner and outer cases, thus allowing no chill by sudden changes of temperature.

5. Where bees remain at home we have to be content with our surroundings, but when they are transported to the heather a choice of locality, securing the best site, forage, shelter, and exposure, should be chosen. As a rule the hives should be planted in the very centre of the heather bloom. In such places, however, they may be too much exposed, and then some temporary shelter is necessary. The surrounding ground should be dry and porous. A small valley is the best, with a slope down from the foraging grounds, so that bees with their heavy loads shall have no uphill work to do. If the slope faces the sun it is an added advantage, as such reaches of heather, facing south or south-west, yield better returns. The sun's rays ripen and expand the heather bloom more fully, and the bees secure more of the sunshine in which they delight to revel.

6. I am not certain, but this section should have come under the sub-head of swarming or young queens, but its importance entitles it to separate treatment. I take it for granted that the bee-keeper has a number of nuclei about his apiary. Now, when he is equalising his stocks and getting them ready for the heather-flow, here is his chance to secure with some degree of certainty that his colonies, when brought to the "boiling point," don't boil over ! and, by swarming, make all his manipulations of no effect. He has a supply of young queens on hand, and these he can now give to any colonies with old, worn-out, over-stimulated, or defective queens. These young mothers, just newly impregnated, rarely, if ever, have any thoughts of swarming ; and while in the hive, the bees under scarcely any conceivable set of circumstances will think of starting queen-cells. Here we have an excellent safety-valve capable of preventing a blow-up.

7. In considering the main factor in working for the heather, viz., *powerful colonies* almost overflowing, I have, recognising that too frequently colonies are not in that happy state just when we want them, advised that they should be made strong. It remains for me to name several ways of attaining that desideratum. (*a*) When adding the queens from the nuclei these last will often yield frames of sealed brood, or young larvæ just ready to seal, which will add considerably to the strength of our made-up lot coming in as workers just when required to maintain the colony in full strength in mid-August. (*b*) Later swarmed stocks can have some of their best combs, all solid slabs of just hatching

brood, added to others in the same way. Contracting these swarmed lots does not harm them, while it strengthens and enriches our already strong stock still further. (*c*) Hives not over strong, and unlikely to yield much, if any, surplus, can safely spare some of their best combs, if care is taken to certify that such frames are immune from disease of any kind. (*d*) Late swarms which would do no other good if increase is not desired can be put to no better use than to strengthen a stock already fairly strong, and thus bring it up to the desired excellence. (*e*) Driven bees can be got from the South about the early days of August, and carefully added to a colony short of the required strength. We thus kill two birds with the same stone as we add the necessary bees and a young and vigorous queen, if of the current season.—D. M. M., *Banff*.

SECOND-CLASS EXPERTS' EXAMINATIONS.

PUBLISHING QUESTIONS.

[4593.] Will you allow me to suggest to the Council of the B.B.K.A. that they could make your most useful paper still more interesting to bee-keepers—especially amateurs and would-be experts—if they would send you weekly for publication one of the questions set in the late examination for second class experts' certificates, together with the answer considered by the examiners to be the best sent in. It would not only be of great benefit to those who purpose entering for the examination, as they would see in what way their answers were deficient, but I believe it would also lead to making the examinations much more popular.—"BRIDGEFIELD," *Llandebie, Carmarthen, November* 26.

"BIOLOGY OF THE HONEY BEE."

DZIERZON AND MOVABLE FRAME HIVES.

[4594.] The recent interesting articles by Mr. R. Hamlyn-Harris on the "Biology of the Honey Bee" contain a reference to movable-frame hives in connection with the renowned name of Dzierzon that may be the cause of a certain degree of misconception. Very recently I had the privilege of reading Dzierzon's work, "Rational Bee-keeping," in the translation published in 1882 by Mr. C. N. Abbott, from the then latest German edition of 1878 by H. Dieck. The hives which Dzierzon there describes and recommends are not in any correct sense movable-frame hives, but rather adaptations of the old bar-hive which had been known in England since about the middle of the eighteenth century. Although described as "movable," the combs are not so in the sense now understood, as they had to be cut away from the sides of the hive before they could be taken out. Moreover, as the hives were made to open at the ends, it was only possible to reach any interior comb by the formidable process of cutting away all those in front of it. The feature, indeed, most likely to impress a present-day bee-keeper on reading the work is the utter lack of prescience exhibited by so skilled an apiarian and keen investigator as Dzierzon in regard to the use of both movable frames and comb foundation. The latter, in particular, he dismisses as hardly worthy of practical consideration, while the former fare but little better at his hands.

I am not aware that he ever modified his views on these subjects; but, as movable frames had been perfected by both Langstroth and Baron von Berlepsch some twenty-seven years prior to the date of the edition I have referred to, it is clear that credit does not belong to Dzierzon in this connection.—A. ROYDS, JUN., *Soberton, Hants, November* 28.

METAL DIVIDERS.

[4595.] Adverting to the reference to "perforated dividers," your correspondent "D. M. M." (4582, page 472 last week) may perhaps be interested to learn that Mr. J. H. Howard, of Holme, Peterborough, and myself have been experimenting with dividers made of wire-cloth instead of perforated zinc. The results seem to leave little doubt that they will be a great improvement on those in present use, and that it will be possible in the future to produce more sections per hive and to greatly lessen the chances of swarming when working for comb honey. It will also mean a larger percentage of sections more perfectly filled and better in appearance. The new dividers will be registered, and Mr. Howard will doubtless be able to put them on the market in time for next season's use. Fuller particulars will be given later on.—W. J. SHEPPARD, *Chingford, Essex*.

HOMES OF THE HONEY BEE.

THE APIARIES OF OUR READERS.

In the account given by Mr. Brown, whose apiary is shown on next page, we have one more example of how to combine honey-production with other items of home produce which it is his business to carry round to his customers. The application of this principle will be obvious to all who either are similarly situated or who can enlist the help of some neighbour willing to undertake the task of selling on commission. We commend the following notes, written at our request by Mr. Brown, to the consideration of our readers when he says:—

"As a reader of the BRITISH BEE JOURNAL, I have been greatly interested in the experiences of others as given in the 'Homes of the Honey Bee,' and thought I would like to add mine to the rest. Enclosed are photos—one of nine hives and one of three located in different parts of my apiary. I first began bee-keeping in 1900 by purchasing two skeps from a neighbour. These I placed on a

stand in the garden, and did not think much about my purchase or the bees until, on returning home from work one evening, my wife informed me that she had bought some more bees and hives at a sale. I at once set about getting them home, and on examining found that some of the hives had got bees in them, while others were inhabited by mice! This was in October, 1900. However, I inquired from those most likely to know what was best to do under the circumstances, and was told to feed the bees, which I did, and now wonder that I did not kill the lot in doing this. Out of six wooden hives I wintered four, and of the five skeps four came through all right. This was a fair result considering that all the honey had been removed from the hives before the sale took place. Not knowing anything at that time about supering, or about surplus-honey getting, or the meaning of 'section-racks' or shallow-frames, the bees began to swarm when warm weather came round, and then the trouble began. My first swarm issued on Whitsunday, and I mustered up courage enough to secure the swarm in a skep. During the following week another hive swarmed, the bees settling on a small plum tree near by for two hours, my wife and daughter being afraid to hive them. The bees hung there all the time, and then made off, hotly pursued by my wife and daughter with tea-tray and brush, fire shovel and poker, making a tremendous noise in their endeavour to stop the bees; all to no purpose, the bees getting safely away to fresh fields and pastures new. Hearing of a gentleman wanting a swarm, I arranged for him to have the next that issued, and his coming to fetch the bees was the means of my getting a lot of useful information about bee-keeping on modern principles, he having been a bee-keeper in Scotland. He strongly advised me to procure a copy of Mr. Cowan's 'Guide Book'—which I did—and also took in the B.B.J. on his advice which I have done ever since, and found both very useful. He also explained to my son the use of sections and how to unite swarms, &c. In fact, he put on our first sections and united some swarms for us. After these useful lessons I have driven bees from my skeps and united them in frame-hives successfully several times.

MR. GEORGE BROWN'S APIARY, LITTLE DALE, DARTFORD, KENT.

"Thus, in spite of many difficulties at the start, we got on well with our bee-keeping, and have secured a nice lot of honey this year. My son, shown in the foreground of photo, and myself, in the centre at back, now feel that we can do all that is needed with the bees, and take great pleasure in the work. My son does not quite like dispensing with his veil just yet, though he has only been stung once. My wife and daughter can each hive a swarm now without the help of either the tea-tray or tongs.

"With regard to our results for the year now ending, 1901, although it is practically our first honey season, we have taken over a

hundredweight of extracted honey, besides a good number of sections. I find a very good sale for extracted honey at 10d. per lb., and have sold all sections as soon as taken, well-filled ones at 1s. each, and those not quite up to the mark, 10½d. each. We could have sold a great many more if we had had them. One great advantage with regard to my honey selling is that I have a regular round of customers to deal with, selling such of my home produce, as fruit, vegetables, poultry, eggs, &c., and I feel quite sure that bees, properly attended to, are very profitable. Of course, I have not secured the amount of honey this year that I should easily have done had I known how to work the bees properly at the start. Our district is a very good part of Kent for bees, being surrounded by fruit trees, clover fields, &c., and the honey has been greatly praised for its flavour. I have purchased no hives except the first lot referred to, my son having made the others, the one on my left being one of them. I shall certainly not use skeps any more except for hiving swarms in.

"I hope to be able to report better results next year, which we trust will be a good one."

A MAMMOTH HONEY TRUST.

They do most things "big" in America, even in (to us) so minor an industry as bee-keeping. Here is something in "Honey Trusts" that will be instructive to us British bee-keepers who confine our operations to the efforts of the modest County B.K.A. The writer is editor of the *Pacific Bee Journal*, a very go-ahead paper, published at Los Angeles, California, and his article reads as follows :—

"Yes, why can't we have it? The time is ripe. The bee-men have the capital, and the cash is theirs for the asking. Big meeting in Los Angeles in October.

"Bee-men do not generally realise the capital they have in bees and honey, and very few know this capital can be turned to account. By utilising the principle of all big combinations—that of uniting or pooling their interests, forming a copartnership that would command the cash for managing and controlling this great industry.

"There is no other business, for the capital invested, that gives the same returns in the short space of time like bees and their product, still the industry is the least managed and protected of any business.

"The honey crop (when we have it) is always over-estimated or decried, while buyers and consumers combine to set a price low enough to protect themselves from the expected flood of honey that does not materialise, but only gains for us producers the narrowest margins and the dissatisfaction of a waiting market, while we might, through combination, afford protection, with better prices to ourselves, and protection also to the large consumers against the *supposed flood of low-priced honey*, the consumers would be better satisfied with an assortment of grades and guarantee.

"The bee-men of California are in the best condition financially—many have taken up other pursuits. The past dry seasons have taught their lesson—'depend not on bees alone.'

"The established law of supply and demand does not rule prices in honey, for, with this year's small production of comb honey, the price is very low.

"California bee-keepers are more than willing to form an association. I have the promised support of thirty-five persons, who own and control 10,000 colonies of bees, whose production this year is 500 tons, valued at 50,000 dols. per annum.

"These bee-men will form an association, by pooling their bees and interests, receiving a share of stock (par value 5 dols. for each colony of bees represented). There are to be no dues or assessments; the business must pay its way. The stock will be for sale at 5 dols. per share for those who wish to invest, and this will furnish all the working capital necessary for buying all lots of honey offered and which will be stored for a ready market.

"The association will have a bee and honey expert, whose duty it will be to examine all apiaries and honey, placing the association's seal on honey at time of packing.

"We would like to have all bee-men of California interested, and we could then combine our interests with Colorado and Arizona. The Pacific Coast States are the honey-producers of the world, and can control prices.

"The meeting will take place in October, time and place to be set later. 'Invitation notices' will be sent to those of the readers of the *Journal* who desire to take part on application to the undersigned,

"B. S. K. BENNETT,

In *Pacific Bee Journal* (American)."

BEE-HOUSES.

HOW TO BUILD ONE.

In reply to your request on page 480 last week for details of construction to accompany the sketch plan sent, I am afraid that I should find it an easier job to build the house than tell how it should be done. I say this because I am more used to handling tools than the pen, so please correct mistakes. First then we take the *floor*:—1. Get two lengths of stuff 4 in. by 2 in., 7 ft. 10½ in., mark off 2 in. from each end for mortise 1 in. thick in centre of 4 in. way. 2. Next take two pieces 5 ft. 10½ in. by 4 in. by 2 in., mark 2 in. off each end; cut tenon to fit mortises. Knock together. 3. Get two pieces of 1½ in. by ¾ in. batten; nail on inside bottom edge to take the ends of middle joist.

Cut three 4 in. by 2 in. to fit between so that the top edges come level; fasten all firmly together. Keep all rounding edges upward. 4. Give a coat of black varnish all over. Lay on 7 in. by 1 in. tongued and grooved square edge matchboards and fasten same down.

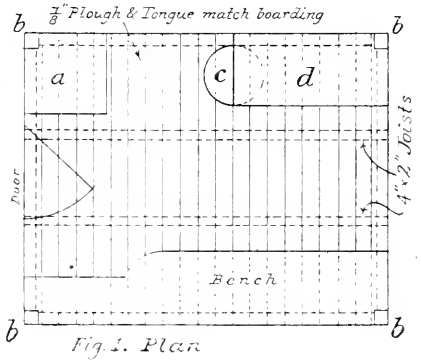


Fig. 1. Plan

We now come to the *front*:—5. Take two pieces 2 in. by 2 in. red deal 6 ft. long; mark off 2 in. each end and one 2 in. in centre, and mortise same, then take three rails 2 in. by 2 in., 7 ft. 10½ in.; tenon these ends; drive well together. Our next job (6) deals with the *back* of house. For this use two pieces 8 ft. long; mark off 2 in. each end, 2 in. in centre. We then need three rails same length

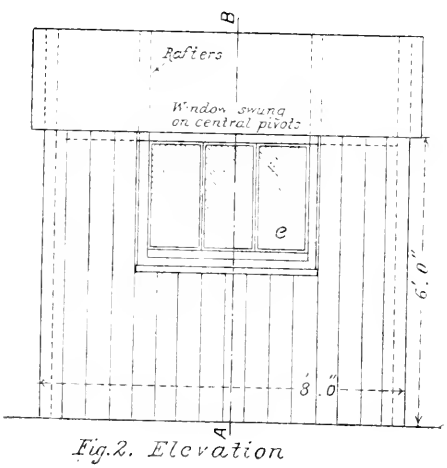


Fig. 2. Elevation

as front; tenon and drive these together. Finally we come to the *ends* of our house. For these cut three pieces 5 in. by 6½ in. for end opposite door. On the inside of these screw an iron square.

Place these latter so that when the back and front are in place the respective squares can be screwed to the rails of back and front end, one which has the door in it. 7. Cut one piece 5-ft. 6½-in. board, find centre, and mark off width of door each side; say door is four boards wide, *i.e.*, two boards in width off each side of centre; mortise for uprights; tenon uprights to fit. Bore a small hole in bottom of uprights (to take an ½-in. iron pin) and bore hole in floor to correspond; then screw two more of the iron squares to end of this rail. 8. Place floor on four bricks where it is to stand. Fix up the front and back on same, and stay them in their places. Screw the rails for ends in position. The framework will now be all in its proper place. Get some pieces of 2 in. by 2 in. scantling for rafters;

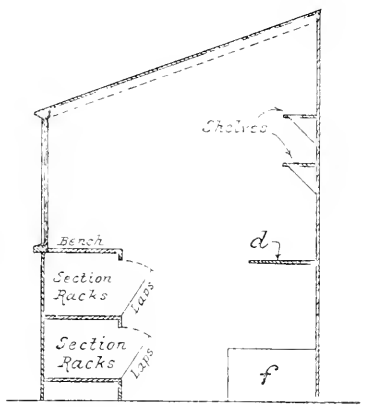


Fig. 3. Section at A. B.

notch them down a little to bear on front and back (do not nail them down). You will now need a few cabin hooks and eyes, and these must be fastened on so as to be easily hooked or unhooked. Nail on ¾-in. matchboards, letting them project over the frame 2 in. each way

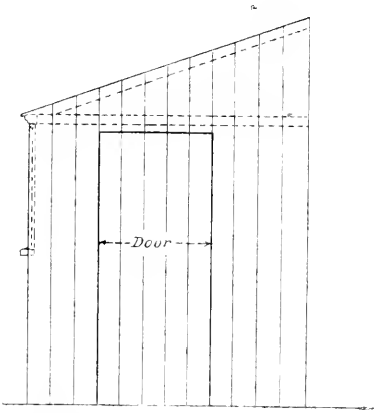


Fig. 4. Side View

Be careful that an extra rafter is placed 4 in. from each end of frame, and that the roof-boarding is only fastened to this so that the

roof may be lifted off if required for the purpose of shifting. Nail ¾-in. boards on back, well painting tongues and grooves wherever the wood bears against rails. Repeat these directions with the end opposite door, except that the last board on each side must be *screwed*, and on no account must the boards be nailed to joists. For *front* get a 4 ft long by 2 ft. 10 in. high, 3 in. by 2½ in. *casement* or window-frame, made to be hung in centre on pivots so as to swing round easily. Rebate it around thickness of board; fix in centre of top half; board it around. The end for door is made same, except the two outside boards being screwed.

If constructed like this, one will be able to take the house to pieces for moving if required. The door is made to suit opening, and hung with 1-in. J-hinges, fitted with rim-lock. Door is shown as opening inwards in sketch, but it might be more conveniently opened outwards to give extra room. Under the window inside fix a bench, as shown, consisting of three widths of 7-in. by 1-in. tongue matchboards; under this two shelves, as shown, are made of 1½-in. by ¾-in. battens; nail on to ledges a space between each batten; fix bottom shelf 3 in. above floor, the other midway; fill up space with strip of wood to bottom shelf from floor: hang two long narrow doors to close openings between shelf; fit them nicely, and when complete this makes a good place to keep extracting-frames and sections; a few balls naphthaline are placed under bottom shelf; fix shelves to back on brackets; make all inside fixtures removable.

In corner fix up a small platform 1 ft. high, 24 in. square, for extractor to stand on. Two brackets of 2-in. by 1-in. wood are next wanted. Hinge them on to a piece of 2-in. by 1-in. stuff, and screw this against back, letting one be an inch higher than the other, and fixing them about 3 ft. 10 in. apart. Then get a piece of white wood 4 ft. 6 in. long by 17 in. wide, and in this make V-grooves 2 in. apart, cut lengthways. Screw some small brass plates on its edge. When done, place this on the brackets for a draining-board to stand boxes of shallow-frames on after being through the extractor. It can also be used as an "uncapping-stand." Cover the draining-board with a couple of coats of pure shellac varnish, and then it will be able to be kept clean with little trouble.

I fear the above may not be as clear to readers as it is to myself, but anything not understood I will be glad to make plainer if I can.—WORKER BEE, *Lungford, November* 2.

Queries and Replies.

[2761.] *Propolised Frames.*—1. In early October, when making the usual overhaul of my hives, I was unable to get the frames out of the brood-chamber, so firmly were they fastened down with propolis by the bees. Indeed, the top-bars would probably have given way before I got the frames out. They are ordinary broad-shouldered frames and have no metal ends. Can you tell me how I can avoid this in future? 2. I lately noticed some query about frames being hung parallel with, or at right angles to, the entrance, the question being, Which is best? My hives have the frames hung parallel to entrance. They are of the same type as the ones chosen by the Government for the use of Irish bee-keepers. Is there any reason beyond fancy which causes the frames to be usually placed at right angles to the entrance? 3. In the case of feeding a rather weak hive, is it best to feed constantly during the winter in small quantities or to feed at end of autumn and early in spring?—G. F. GILLILAND, *Harrow, N.W., November* 28.

REPLY.—1. If your hives are properly made with frames hanging on metal runners or on a narrow chamferred edge of wood, there should be no such propolisation as you name. The broad-shouldered frame, however, is much more liable to give trouble in this way than when a metal end is used along with the metal runners. We are told that such bee-keepers are advised to smear the under sides of the broad-shouldered frames with vaseline to prevent the mischief of which you complain. Our preference, however, is for something more cleanly than what resembles "grease" as a lubricant, so we use metal ends and runners, which reduce propolisation to a minimum. 2. The question "how frames should hang" has been raised so frequently in our pages that we have ceased to argue it further. Those who need to buy hives "pay their money and take their choice." On the other hand, there are no hives "chosen by the Government" for the use of "Irish or any other bee-keepers." In sober English we presume the hives referred to are those recommended by the Congested Districts Board of Ireland on the advice of their expert. And with regard to this advice we need only say that the best authorities on this side of the Channel prefer hive frames to hang at right angles to entrance for reasons which have been repeated many times over. 3. All feeding up for winter should be done by the end of September, or earlier if convenient. Bees frequently will starve to death in winter with well-supplied feeders overhead. When stores are found to be short, the best remedy is a cake of well-made soft bee-candy placed just over the cluster of bees in brood-chamber.

[2762.] *Hand-made Comb-Foundation—the Reitsche Press.*—As an old but distant subscriber, may I ask if you can recommend the "Reitsche" hand-press, or any other make for making medium-brood and thin-super foundation? Please state size of plates usually made and address of the manufacturers. I wish to obtain a machine for making

foundation in small quantities for my own use, and think a hand-press might be more convenient than a roller-machine.—H. R. ROBERTS, *Cape Town, South Africa, November* 13.

REPLY.—We think it very probable that the Reitsche press would answer your purpose very well, it being the best hand-press for foundation-making we know of. The process of manufacture, however, can hardly be so well regulated as to produce what is known as "medium brood" and "thin super" foundation, as those qualities or makes respectively are understood. The operator can regulate the thickness of the product more or less, just as on the old plan of "dipping" the sheets to the required thickness before passing them through the rolling machine. This is all the Reitsche press does by producing the cell-foundation through pressure.

[2763.] *Beet Sugar as Bee-Food.*—Bee-keepers are cautioned against using beet sugar as bee-food. Would you, in next issue of your JOURNAL, kindly give the reason why beet sugar is injurious, whereas cane sugar is wholesome for the bees?—KELTING'S, *Zandpoort, Holland, November* 26.

REPLY.—The advisability or otherwise of using only pure cane sugar as bee-food has been questioned—in America especially—for some time past, and some authorities on that side have affirmed that beet sugar is as good as cane for the purpose. The latter statement being brought to the notice of our Senior Editor—who, as our readers know, is at present sojourning in California—Mr. Cowan, who holds strong views regarding what he considers the injurious nature of beet sugar for bees, wrote the following letter to *Gleanings* on the subject :—

"I have just been staying at a fruit-cannery in the Santa Cruz Mountains, where they use nothing but guaranteed cane sugar for canning purposes, and their experience with beet sugar is very similar to ours in England. It may be that the humid climate may have something to do with it, but it is quite certain that beet sugar is bad, not only for bees, but also for preserving fruits in England. I suppose in the laboratory it is possible to get perfectly pure cane sugar from beets, so that chemically it would be identical with that obtained from cane sugar, but in practice it is found that there are certain potash salts in sugar from beet which do not occur in those from sugar-cane. Leather and beefsteak have chemically the same composition, but there is a difference between them."

[2764.] *The Rymer Honey-Press.*—In using the "Rymer" press, is the honey pressed from the comb sideways through grates or through the bottom? An answer in B.B.J. will oblige.—C. GIBSON, *Keighley, November* 28.

REPLY.—The comb when placed between the grooved plates is forced from the cells by downward pressure, and it thus escapes into the spaces between the grooves. It has, of course, eventually to run down the sides of grooves into the receptacle placed beneath to receive it.

[2765.] *A Lady Beginner's Queries.*—As a beginner in bee-keeping, I ask your advice under the following circumstances :—In March last I bought a stock of bees in skep, and on May 20 following I bought a swarm. A week later the first-named skep sent out a swarm which I hived in a strong box 16 in. square. Two small casts also came out from the original skep, and I united and hived them in a frame-hive. The swarm bought in May sent out a swarm in July, and I had the bees driven from first skep (which had swarmed several times) and united them to this July swarm in a frame-hive. We also, after driving, transferred the combs containing brood and honey to the latter, tying the combs into three of the frames. In August we were much bothered by the persistent swarming out from one of the hives of about a pint or so of bees. I hived them six times, but they went back to the parent hive every time. At last I destroyed them to save further trouble. I have taken no honey at all this season except what was got from the original skep after driving, and so I want to know (1) if the several stocks will want feeding. When packing the bees down in October they seemed to have a good bit of sealed honey, but when the weather is mild and warm they come out in good numbers. 2. Is this because they need food, and should I examine to see how the stores stand? I read the B.B.J. and have Cowan's "Guide Book," but do not quite yet know how to act. I have hung sacks over the fronts of the hives to keep out wind and rain. 3. Is this right? They are sheltered on north, east, and west, and only open to the south. 4. If I require to feed, must it be with candy or syrup?—LAURA HAVELL, *Woodcote, near Reading, December* 2.

REPLY.—1. Nothing but an examination will show whether the bees need more food or not. Refer to "Guide Book" on "Feeding Bees" for help in this matter, full instructions on this point being there given. 2. No, the bees will continue to come out on fine, warm days all through the winter if in good health. 3. You will find no instructions to "cover up the fronts of frame-hives with sacks" in "Guide Book." The only points with regard to protection in winter is to shield the bees from strong winds in exposed situations. To cover up the hive fronts as stated would only cause confusion through the bees finding a difficulty in recognising their own hives. A south aspect is good, and the bees will come out when needing a cleansing flight, so do not cover up as proposed, but leave all as they now stand.

WEATHER REPORT.

WESTBOURNE, SUSSEX.
November, 1901.

Rainfall, ·52 in.
Heaviest fall, ·12 in., on 12th.
Rain fell on 10 days.
Below average, 3 in.
Maximum Temperature, 56°, on 11th.
Minimum Temperature, 20°, on 17th.
Minimum on Grass, 12°, on 17th.
Frosty Nights, 13.
Sunshine, 97·9 hrs.
Brightest Day, 1st, 7·5 hours.
Sunless Days, 9.
Above average, 28 hours.
Mean Maximum, 46·8°.
Mean Minimum, 34·6°.
Mean Temperature, 40·7°.
Below average, 2°.
Maximum Barometer, 30·70°, on 23rd.
Minimum Barometer, 29·10°, on 13th.

L. B. BIRKETT.

PRESS CUTTINGS.

BEE-HIVE OUTRAGE.

In the Forfar Small Debt Court yesterday proof was led in the action at the instance of James Whitton, constable, of the Forfar Burgh Police, against Henry White, mason, Well Brae Head, and Andrew Pattulo, slater, Prior-road, Forfar, concluding for £6 15s. in respect of loss and damage sustained by pursuer in consequence of defenders having upset nine bee skeps belonging to him, and also for loss and damage caused to pursuer's flowers and fence. Pursuer and a number of witnesses gave evidence as to the damage and the loss sustained through the bees having been disturbed in what had proved to be a good honey season. After evidence, the Sheriff said that he had no doubt the pursuer was entitled to damages, and in such a case he was disposed to take a generous view. There was a considerable loss which could never be repaid. In his Lordship's opinion the amount of damages claimed was quite a low estimate, but in view of the evidence he would make a slight alteration in the last two items—namely, damage to the garden and fence. The decree would therefore go for the sum of £6 2s. 6d., with expenses.—*Dundee Advertiser, November* 1.

BEES IN THE ARMY.

From Russia comes a suggestion to the effect that honey bees should be tried as military messengers in place of homing pigeons. It is urged that for such purposes they would be preferable to birds in more than one way, inasmuch as they could hardly be intercepted, and it would certainly be out of the question for the most skilful marksman to hit such a carrier. As for their size and small carrying power, a bee could transport a good deal in the shape of documents, if the latter were transferred by micro-photography to a minute piece of paper. This piece of paper might be fastened to the insect's back, and on the arrival of the little messenger at its destination the writing could easily be enlarged.

The homing instinct of a bee is as strong as that of a pigeon, and its method of finding its way to its hive is the same as that whereby the bird gets back to its cote from a great distance. It rises high in the air, being thus enabled to survey a great extent of country, and travels by recognised landmarks. But the chief doubt as to the efficiency of the insect as a war messenger lies in the question whether it would be able to return to its domicile from very distant points, its customary journeys in search of honey not ordinarily exceeding a mile, or at most a mile and a half.—*Science Siftings.*

A NEW USE FOR HONEY.

The Viceroy to-day visited the Royal Monastery, where the remains of the late Buddhist Archbishop will be embalmed in honey, awaiting cremation. He afterwards met a vast concourse of yellow-robed monks, who welcomed him as "a lily to water," and roared at the discomfiture in debate of the rival candidate whose pretensions stand in the way of the appointment of the new Buddhist Archbishop. Lord Curzon announced that the confirmation of the latter would be contingent on unanimity in the election.—*Daily Mail, November* 30.

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ANON (Blenheim-walk, Leeds). — *Diagrams for Hire or Loan.*—In reply to a letter from above address (inadvertently unsigned), the only diagrams we know of are those published by the B.B.K.A., which are not loaned or hired out, but may be had, price 4s. 3d., post free, from Mr. E. H. Young, secretary, 12, Hanover-square, London.

ANON.—*Suspected Comb.*—A small oval tin box received here on 29th inst. was marked "Found open at post-office." The envelope (a flimsy paper one) had broken open in post, and letter (if any) had evidently fallen out. If sender will write an answer will be returned.

J. P. DOUGLAS (Cockermouth). — *Honey Sample.*—We consider sample sent a rather nice-flavoured honey, well ripened, and in good condition as a granulated honey.

*** *Some Queries are unavoidably held over till next week.*

Editorial, Notices, &c.

INSURANCE FOR BEE-KEEPERS.

The question of formulating a scheme of insurance for bee-keepers against loss through damage done by bees was discussed at the monthly meeting of the B.B.K.A. Council, as reported in our issue of November 28, and, as will be seen, the proposed scheme has now reached the practical stage so far as regards the terms upon which the desired end may be attained. We use the term "practical" advisedly, because the *gist* of the whole matter at present is the amount of support the fund will receive in the shape of insurers. It is all very well to hear of a few scores of bee-keepers who, for various reasons, are earnestly desirous of taking out a policy of insurance as proposed, but it is, in our opinion, only by the plan being taken up by county bee-keepers' associations with personal heartiness and energy that there can be any reasonable hope of a sufficient number of stocks of bees insured to make the scheme workable. In other words, no company or reliable firm of insurance brokers would for a moment entertain the idea of taking any such responsibility as is necessary unless it were made worth their while to do so in view of the trouble involved. We must therefore patiently await the views of the respective executive committees of our County Associations when the scheme has been matured and put before them in printed form. Meantime, we earnestly hope that no County B.K.A. will pass the matter over without full discussion.

Without being too hopeful as to the final result of the praiseworthy effort embodied in the above, we must impress upon the executive of the various County Associations the importance of personal effort in the direction of ascertaining to what extent their members may be counted on, or, in other words, what amount of support they are prepared to give to the scheme. This is the *gist* of the whole matter, and is, indeed, the only means by which a definite conclusion can be arrived at. But it needs a prompt decision, one way or the other, without further loss of time.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4596.] The past month of November has been an abnormally dry one, and as a consequence of the past generally dry season many of those who have to depend upon the rainfall are short of water. The ponds are low or entirely empty, while the contents of deep wells are much reduced and in some cases quite empty, all of which indications will retard the rising of the springs after the turn of the days. Many farmers located on the hills around are at present obliged to send from a considerable distance to the streams in the valleys in order to get water for the cattle, with no prospects of immediate relief from this heavy expense. This particular shortage does not affect bee-keepers, but the drought of the spring and early summer of 1901 has, as it were, cast its shadow far into the summer of 1902 in a manner which must affect the interests of the craft considerably. The drought of 1901 set in early, just after the sowing of the spring corn and grass seeds, which in a good season cover the ground, and by harvest time the most forward of the young grass ought to be ready for the scythe when mowing the concurrent crops of barley or oats. This makes the grass-plant tiller out after the "cutting," and become sturdy and strong to withstand the frosts of winter. But this season I have known several fields which had been sown with grass-seed ploughed up; and in other places, where the crop is allowed to stand, there is but a half to two-thirds crop. All this tends to show that the prospects of a good white clover season in 1902 are heavily handicapped. On the other hand, the young sainfoin looks well, as does some late-sown trifolium, which has come up strong and full of promise; these two will, weather permitting, help to fill the supers next year; only we like a mixture of white clover in with these two, and then we get "honey fit for a king."

I can endorse Mr. "D. M. M.'s" observations *re* metal dividers, with their rough-cut slots and edges; and I would commend another point to the notice of manufacturers of this necessary valuable appliance, *i.e.*, the *height* of the divider. This should be $\frac{1}{32}$ in. less than the height of the ordinary $4\frac{1}{2}$ by $4\frac{1}{4}$ section. If this is carefully seen to, one could scrape off any small particles of propolis or brace-

comb from the tops of sections, as the latter stand in the full racks, just as taken from the hives. This will effect a considerable saving of time as against scraping sections singly. The best dividers I have in use are some made of very thin zinc I bought many years ago, when slotted dividers first came out, and, to my mind, they are still ahead of all others, notwithstanding the cautions we bee-keepers received in years gone by regarding the danger of using zinc in connection with honey from our friends the chemists. Since then we have heard of the large galvanized-iron tanks used in America for the storage of honey preparatory to canning it.

Black Bees v. *Foreigners.*—On the question of races of bees for profitable bee-keeping, our American brethren have for many years strongly recommended the Ligurian in preference to the black bee, though I gather that a colony of the latter made the best record for honey-gathering at the Pan-American Exhibition at Buffalo, U.S.A., in competition with several stocks of Ligurians. The honey was gathered during the time the exhibition was open; the bees were working in view of the visitors all the time. I also notice that our friend Jno. Berry (page 472) has not had extra success with Cyprian bees; this is much the same as the experience I have heard privately from parties trying them. They do not seem to be so suitable as our English bee for this climate, and although only in recent years have the scientific breeders of queens taken the subject in hand, yet I think every fair-minded man will admit that the black (or brown German, as some call it) bee has not deteriorated within known history; so that either the bees are good judges of their own requirements when selecting eggs which shall in future perpetuate the life of the colony, or else it must be that, given an egg and special feeding, and, presto! you have a queen equal to the best selection that can be made.

Queen Wasp Mating.—Wasps mate in confinement, without a doubt. I remember Mr. Baldwin, formerly expert to the B.B.K.A., calling the attention of several bee-keepers, of whom I was one, to the fact that a wasp's nest confined under a glass shade at a bee and honey show afforded positive and ocular proof of the act of "mating" to onlookers.

Honey Packing.—This subject seems to be ever with us in one form or other. The railway companies are often blamed for damaged honey, and not without reason in some cases; but I believe that bee-keepers themselves are not blameless in the matter. The many breakages are a great nuisance and loss, but the best preventive is *careful packing*. Up to the present time I have this season had only two 1-lb. glass jars of honey broken out of all the hundreds despatched to customers far and near. This, I contend, is entirely owing to my care in packing, and not to any particular carefulness of my goods at the hands of railway porters. In one special case of breakage that came under my notice at a recent exhibition the sections (nice ones, too) were simply placed in a box without packing material of any kind whatever under them. Consequently they were badly smashed, and when the owner called my attention to the damage I fear I was but a "Job's comforter." I did not say, "Serves you right," but observed that had I packed my honey in that fashion I should have expected to find it broken on arrival at the show, and consequently I should make a poor witness for any claim on the railway company for damage.—W. Woodley, *Beedon, Newbury.*

THE EVOLUTION OF THE BEE.

[4597.] Away back in prehistoric times our ancestors were in habits and modes of life much like the inhabitants of uncivilised and savage countries at the present time. They lived from hand to mouth, having no call for forethought, and, leading a nomadic unsettled life, knew none of the joys of home. Society and all the higher pleasures of educated intelligence were to them unknown. When history first lifts the dark curtain, we find them still a race of savages with few of the comforts which make life worth living, and of luxuries none. Combination was on an insecure footing, though traces of it are to be discovered, as also are some attempts at making permanent residences. Glancing at the Middle Ages, we see man making vast strides in many ways, though still too often might was right, and the chief law honoured was, "He can take who has the power, and he can keep who can." Centuries later we see him advancing in many of the more intellectual pursuits and accomplishments, and home became a centre of refinement and comfort. The *present* ceased to be his only care, and the *future* shared his thoughts and aspirations. Modern civilisation needs no encomium. Look on the companion pictures of prehistoric man and that of his successor of the twentieth century. The savage with few feelings or aspirations higher than animal instincts has evolved into the highly intellectual man of to-day, who, if he has not attained unto perfection, has climbed very high up the ladder leading thereto.

Leaving the order Mammalia, let me describe a somewhat analogous development in the order Hymenoptera. Away down at the extreme of the order there is a bee—the Prosopis, which Darwin's disciples consider the ancestor of the whole race. We see some of the family in our gardens on bright, sunny autumn days, flitting about in an aimless way. She leads a solitary, unsocial life, which is perhaps not unmixed with a species of joy; propagates her species, and disappears—just as the savage does.

Rising a step higher, we find another class of bee, the *Dasypoda*, who unite to form

their dwellings, but, having no community of tastes or desire for combined effort, each unit is a law unto himself or herself. Nothing like a family circle can be detected, though friendship and good fellowship seem to prevail. A certain attempt can also be seen in the formation of something like a cell, though as yet it is rough and unshapely.

Still higher, we come on the *Panurgi*, which show traces of combined effort. Each bee makes its own cell—more shapely and much in advance of the *Dasypoda*—and they have an approach to their dwellings, which is common to all and formed by mutual effort for the good of the whole community. The attempt at cell-formation is far from perfect, but the idea is germinating, and something like a house and home has been evolved.

Then we come to our familiar friends the Bombus, or humble bee. One solitary queen bee is seen flying about in early spring, at first in an aimless manner, until she selects a favourable spot, where she proceeds to make her nest—a bumbee's bike—the shape, appearance and contents of which are so well known to every schoolboy. Unshapely as are the cells of which it is composed, we discover in them vast strides towards the desired goal. The mother bee lays her eggs in them, stores her honey and bee bread, and tends the larvæ which soon become her willing helpers in adding to and maintaining the home, where several hundreds of bees are reared during the season. Nothing like permanency has yet been attained, for at the approach of winter the home disappears and all its inmates but the few queen bees die.

A step in advance is taken by the *Meliponitæ*, bees found in tropical climes, who are social and live in communities. They build greatly improved cells, and in habits, customs, and combination approach very much nearer our hive-bees than any yet named. *Apis dorsata* seems a link between the two. At times it lives in a close community, but it s nature is yet a roving one, and it displays unsettled and erratic proclivities. Its cells are, however, true hexagons, and its general conduct is so closely allied with that of *Mellifica* that it is generally classed in the same species.

At last we come to our own *Mellifica*, with its separate varieties of English, Cyprian, Italian, Carniolan, &c. It is the type of all that is highest, best, and most "intellectual" in insect life. Its work is at the same time the most wonderful and the most perfect known. Its order of government is a model. The sweetness of its produce has become a proverb ; so has its industry.—F. E. I. S.

DZIERZON AND MOVABLE FRAMES.

[4598.] I read with much surprise the remarks of your correspondent, A. Royds, jun., in last week's B.B.J. (page 484), and consider that my reference to movable-frame hives need be in no way *the cause of a certain degree of misconception*. In fact, I fail to see how your correspondent can succeed in making a grievance out of what is known to be a fact.

I should be glad if Mr. Royds will take the trouble to read that part of my paper again, and to note the following sentence, to which I again draw his attention :—

"So that we owe to Dzierzon the fact that *during his life, and on his initiative*, the movable-frame hive should have come into *general* use." Is he prepared to dispute this ?

There is no reference on my part of Dzierzon being the *inventor* of the movable frame, as so many suppose. On the contrary, I have pointed out that the Greeks were probably the inventors. Baron von Berlepsch was a contemporary of Dzierzon. These two worked together for so many years, but I think we can hardly say that Baron von Berlepsch perfected the movable frame. Langstroth was born within one menth of Dzierzon, and the appearance of "Rational Bee-keeping" was not Dzierzon's first appearance on the stage of apiculture by a long way. Dzierzon (who is still living) was a very careful observer in his early days, and it is to his credit that he used every means in his power to verify what he thought before dashing into print—a lesson which some might do well to learn.

Should Mr. Royds desire, I can name several German books which would be an eye-opener to him, and enable him to get an insight into the matter, which he evidently does not understand at present.

BEE-KEEPING IN THE WEST INDIES.

I note your reply to "O. Pfleiderer, London, S.E.," and beg to inform him that the Commissioner of Agriculture issues a book on the above subject written by W. K. Morrison (Pamphlet Series No. 9). — R. HAMLYN-HARRIS, *Tübingen University, Germany, December 7.*

DEALING WITH FOUL BROOD.

HELP FROM SO-CALLED EXPERTS.

[4599.] In B.B.J. of September 6 last year (page 346) I saw a paragraph which ran thus —

"Mr. S A. Ballance (North Finchley) writes with just indignation regarding the 'doings' of a so-called bee 'expert who was called in to assist a Somersetshire farmer (who is also a bee-keeper, owning about fifty hives) in ridding his bees of foul brood. According to the details given, this 'expert' must have been stupidly ignorant of the nature of the disease he was dealing with ; but before going further into the matter it would be well to know if the man referred to was, as he gave himself out to be, a duly qualified expert ; and if this is made clear we will be very pleased to follow the matter up if desirable."

I have little doubt that I am the bee-keeper referred to, as a Mr. Ballance from North

Finchley was stopping at this place during the summer of 1900, and he very kindly helped me in various ways about my bees on several occasions. Indeed, it was soon after he left here that the above paragraph appeared in your pages. At the time referred to I had the fullest confidence in the expert who attended to my bees, for he is, I believe, a well-known man, and I have seen his name in the B.B.J. on several occasions, both as prize-winner and for expert work. However, I will give you as well as I can a brief account of his dealings with myself. I have been a bee-keeper for some years now, but met with indifferent success, owing to many stocks dying off and others becoming weak and having to be united. About three years ago I procured Mr. Cowan's "Guide Book" and became a reader of the B.B.J. After reading your publications I began to suspect foul brood as the cause of my troubles, and, in consequence, wrote to the secretary of the nearest B.K.A., enclosing a subscription and wishing to become a member, and also asked for a visit from an expert, as I wanted his help. The secretary replied that it was impossible to send an expert specially to see my bees at the time, and, in consequence, my subscription was returned. Naturally enough, I was disappointed, as I had about fifty stocks on my hands at that time, and, of course, it was of the utmost importance if any of them were diseased to take prompt steps in getting rid of it. Later on I received a letter from a person who stated that he was expert to the Association whose help I sought, and offering to come and see my bees, as he would be in my neighbourhood on business and would look in if I wished it. I was, of course, very glad to avail myself of this offer, as I had seen my correspondent's name in print several times in relation to bee-expert work; so a call was arranged for, and eventually he had a look at several stocks of my bees, most of which he pronounced as badly affected with foul brood. I asked him what I had better do, and in reply he said he would come down in spring and work up the district and do my bees at the same time. This promise was duly kept. He came down, and I helped him to make artificial swarms of all the stocks which he pronounced diseased The way he did it was as follows:—He brushed the bees from two strong stocks into a skep, tied up the mouth of the latter with broken bags, and placed the skep, mouth downwards, on a hurdle, which was raised 2 or 3 ft. off the ground on stools, blocks of wood, &c. I then carried the hives and combs from which the bees were driven into a dark room in an outhouse, carefully closing up every aperture. We went through about thirty stocks like this, putting two strong lots of bees into each skep, or three or four weak ones according to their strength. I asked whether it would not be more advantageous to put one strong stock of bees into each skep, as a strong lot, even if diseased, is at least equal to a good swarm, but he advised me to go on as we were doing. The bees were kept in the skeps for two days, at the end of which time we began to hive them in disinfected hives; but to my intense disgust no less than eight of the lots were dead! This represented at least sixteen strong stocks of bees. I thought then, and I think now, that it was due to overcrowding, as some of the skeps were nearly full of bees. However, we hived the remaining lots, and I wanted to feed them up with sugar-syrup according to the directions in the "Guide Book," and destroy or bury the honey from the diseased hives; but I was told that the honey would be all right for feeding back to the bees if it were boiled twice, then diluted with water, and naphthol beta added. With his help this was done, but to me it was very uninviting looking stuff—very dirty and black-looking, and the bees took sugar-syrup far more readily than this honey; in fact, they would not take it at all unless after some days' wet weather, when I suppose they were almost starving. Every artificial swarm to which this honey from diseased stocks was fed contracted foul brood again very shortly after the brood was capped over. Acting under the same person's advice also, I fed some weak stocks, which he had pronounced healthy, with this same honey, and every one of these also contracted foul brood badly. This, as you may imagine, made me rather sick of "experts," so this last spring I "did" them myself, according to the instructions in "Guide Book," instead of trusting to an "expert," and, in consequence, did not lose a single one in artificially swarming. I am now happy to say I have only two or three suspicious cases, and shall get at them early next spring—foul brood or no foul brood.

Through the losses I have referred to during 1900, and weakness from the same cause last spring, I have now only twenty hives at present, in spite of having purchased ten swarms in 1900 to fill empty hives (thinking the bees would be all right after the expert had "operated" on them). This season has been quite a record one for this district, and people have been averaging sixty and eighty sections per hive, and I thus consider that I am not far short of £100 out of pocket through the gross mismanagement detailed above. I am confident that if I had treated the bees myself in the spring of 1900 I should have started 1901 with at least fifty healthy stocks. I may also say that the person referred to took away a large quantity of my honey to sell for me, and some more in the following autumn, for all of which I have not yet had a penny in cash. I have repeatedly asked to have back either the honey or the money, but I get no reply. Can you help me in this direction? It is a hard struggle with farming as a business on this little place at the best of times, and I was looking to the bees giving me a helping hand, but they have up to now been only a drag to

me, though I am hoping for better times to come. I have made arrangements with another farmer to let me have a corner of his land, about two miles away, and I shall use it as a sort of isolation hospital for foul brood. If you can advise me what to do in this fix you will be doing me a great kindness.—X. Y. Z., *Somerset.*

[We have, for obvious reasons, omitted names, &c., from the above, and have also deleted all personalities regarding individuals, for the equally good reason that it is not quite so *safe* to print such as may be supposed. At the same time, we think a matter of such general interest to bee-keepers should be made public, and in view of this have made such inquiries as were necessary in order to arrive at the facts. As, however, there are always "two sides to a story," we shall now endeavour to get at the other side, and will then be able to say what advice we can give in the direction desired.—EDS.]

SECOND-CLASS EXPERTS' EXAMS.

PUBLISHING QUESTIONS AND ANSWERS.

[4600.] With regard to the suggestion of your correspondent "Bridgefield" (page 484) on the above subject, several serious difficulties at once occur. It will suffice to mention two obstacles which appear to me insuperable. The first is that since the area of knowledge required from candidates is comparatively small, and consequently the scope of examination is very restricted, the publication of one question a week would speedily exhaust all that could well be asked. Secondly, as one aim of the B.B.K.A. Council is to secure that all second-class experts shall be able to express themselves clearly and *independently*, this object would be likely to fail of attainment if it were possible to pass the examination, with even great distinction, by committing to memory the selected answers of the most successful and able candidates.

As to enabling any who fail in passing the examination to "see in what way their answers were deficient," a more reasonable and useful plan would be to ask the Council to allow examiners to supply, through the secretary and for an additional fee, a special report on the work of any rejected candidate who should request information as to the reasons of failure.

I may just add that the Council desire much rather to make their examinations *effective* than merely to see them "*popular.*"—A MEMBER OF COUNCIL AND EXAMINER, *December 9.*

[4601.] As a probable candidate at next year's second-class exams., may I be allowed to strongly support the suggestion of your correspondent "Bridgefield" (page 484). I think if carried into effect it would be of inestimable benefit, not only to would-be experts, but to bee-keepers generally.

I believe it is the custom after examinations for the professions for the questions and answers to be published for the benefit of intending candidates.—W. SNOWDEN, *Park Poultry Farm, near Doncaster, December 8.*

SOME ESSEX NOTES.

[4602.] *Beet Sugar for Bee-Food.*—I see that "Keltings, Zandpoort, Holland" (2763, page 489), asks our Editor to state reasons why beet sugar is injurious to bees as food. I may say that, while some bee-keepers are a good deal troubled by dysentery among their bees, I have never had a single case of that disease in my apiary. I attribute this to the fact that I have always used used cane sugar in the preparation of all bee-food. Any one of average intelligence can realise that in a naturally damp climate like ours food prepared from ingredients that are not of the best to begin with is almost certain to be rendered less wholesome by a generally damp atmosphere.

A lady well known to me can never succeed in making really good jam, *i.e.*, in from two to three months after making it becomes mouldy on the surface. In reply to questions on the subject she says, "jam making is expensive," and I then find that she always uses common beet-sugar from the village general shop for her jam, so year after year there is this great waste of time and materials.

Railway Companies and Bee-Keepers.—Your correspondents, "Messrs. W. & S., Lowestoft" (4591, page 477), are fortunate in being able to get their claims for damage to parcels of comb honey satisfied. I have, not without reason, thought that the higher officials of the company inquire of the local station-master through whom the claim is made with regard to the position of the claimant, otherwise. how is it that Messrs. "W. & S." and myself, being on the same railway system, are treated so differently? A London honey-dealing firm have had the same treatment meted out to them as myself by the G.E.R. So that, if the company are within their rights, as they tell me they are, in declining to entertain a claim for comb honey, the letter of "W. & S." shows that there is something wrong somewhere.

Enemies of Bees.—On October 22 last, I detected a toad dining at the entrance of one of my hives, and as he worked his way down a hole near by, I thought of him as "the last toad of summer," but yesterday, December 8, I saw a small toad in the vicinity, tempted to a walk abroad by the rain, no doubt. In the first week of November the large tit put in an appearance here, and I soon found out they had "come to stay." The tits do not usually visit my apiary so early in the winter. This year they came betimes and at once set about their destructive work at the hive doors with such energy as compelled me to trap them. I sometimes admire the tits, but this year Mr. and Mrs. Tit have brought all the family with them for a stay till next spring. Recently,

when there was ten degrees of frost, I found that one of my stocks had been disturbed by the tits picking and scratching about the entrance, the bees rushing about and flying out as they would in April. One tit caught in the trap at the hive referred to fluttered a little in the effort to escape, and the bees seeing the rapid motions of the wings, stung the bird. I found no less than twelve stings in its head!

Clearing Supers of Bees.—I was much amused by the article on page 468, by C. Davenport, culled from the American B.J., describing how bees are "jounced" by some American bee-keepers. "Jounce" is a word so seldom used in this country that it is now about twenty-five years since I heard it. I remember, at the time, I was passing two children on a see-saw, when one remarked, "Liza, you do jounce so." The word, being uncommon, struck me at the time. I think bee-keepers in this country will be best advised to do as little "jouncing" as possible, for rough methods, that may be adopted without fear of the embrace of the law's strong arm on a prairie, are not suitable for our country. Had I ever so large an apiary, I should prefer to use the super-clearer, for bees that have been "jounced" at night appear to feel in the morning somewhat like, I am told, a man who had imbibed too freely overnight, and got a jouncing, feels in the morning—disagreeable to everything and everybody. There are few bee-keepers in this country who can have the annoyance caused by imperfect clearing of supers, taking enough bees indoors, or into the extracting-house, in a few supers to form a swarm in the roof. But it seems that we are simply not in it. We have read of honey-tanks across the herring-pond holding from one to three tons; even these gigantic receptacles seem likely to get promotion shortly to a "Honey Trust."

Second Class Experts' Examinations.—I do not consider the recommendation of "Bridgefield" (4593, page 484) to be a good idea. I think candidates should give their answers entirely on their own, so to speak. It is my opinion that if a variety of ready-made answers were published there would soon be what I will call a lack of initiative on the part of candidates who offer themselves for examination.

Queen-Excluders.—Mr. Macdonald, in his "Comments on Current Topics" (4582, page 472), says, "I never used queen-excluders, and I never will," apparently forgetting that circumstances alter cases. Here in Essex the honey-flow often commences in the third or fourth weeks of May, and if the bees then happen to be a little unsettled, the queen very often gets an opportunity to deposit eggs in the 1 lb. sections upstairs, and takes it. In my early bee-keeping days I got so sick of finding brood in the supers that I have for years used queen-excluders under supers of every sort. Nor do I find that the bees allow themselves to be hindered in the least by the excluders. But I find that many bee-keepers are not at all careful how they put the said appliances on. In the year 1900 I put on some of my strongest stocks two queen-excluders each, one in the usual position and one under the second super. These stocks were not made to swarm by this treatment, and the quantity of honey stored by them was second to none of those stocks that had one queen-excluder. — WM. LOVEDAY, *Hatfield Heath, Harlow, Essex, December 9.*

DE REAUMUR ON WASPS AND HORNETS.

[4603.] In view of the attention just now being paid to the study of wasps, I would strongly recommend all such as can read French to get hold of vol. vi. of Réaumur's "Memoirs for a History of Insects"; quarto; Paris; 1742. The sixth and two following memoirs are devoted to wasps of various kinds and to hornets, the life-history of these insects being minutely described from the laying of the egg onwards, while the reader is greatly helped by an admirable series of plates, many of them to scale, not only of the insects and their parts, but to their nests at various periods of construction. This great and indefatigable naturalist and man of science, whose memoirs on the hive-bee in the preceding volume must always take rank amongst the most valuable contributions to bee-craft, was, I believe, the first to transfer wasps' nests to glass boxes and keep them under observation. He describes how the larvæ are fed according to their various ages by the queens and workers, and he tells us how a schoolboy friend of his reared several larvæ by hand as if they had been young birds.

Réaumur also witnessed and describes the coupling of the drones and young queens on the outside of the nest, although he was not in a position to carry out his observations quite so far as has recently been done by Mr. Brice, whom it is a pleasure to congratulate both on that point and on having at last succeeded in demonstrating the flagella of *bacillus alvei*. His observations as to the mortality of the males confirm those of Reaumur, who found that the workers, earliest to appear, were the first to perish, and then the males. Out of several hundred queens only about a dozen survived the winter; but, as Reaumur says, perhaps in a more natural state of existence the mortality might have been less.

A very much abridged rendering of Reaumur's "Memoirs on Wasps and Hornets" was published in 1748 as part of Thomas Wildman's "Treatise on Bees." In 1868 Messrs. Longmans published "British Social Wasps," by E. L. Ormerod, M.D. This book (8vo, xi.-270 pages, and well illustrated, price 10s. 6d.) was lately being offered for much less; it will be found useful to those interested

in wasps, except on the subject of generation, which is scantily treated.—H. J. O. WALKER, Lieut.-Colonel late R.A. (*"South Devon Enthusiast"*).

METAL DIVIDERS.

[4604.] With reference to Mr. Sheppard's letter on dividers in your last issue (page 484), it may be of interest to state that I had two supers made to my specification in March last by Messrs. Lee & Son, in which the sections were hung in frames and wire dividers were supplied and used.

They were in use last season, and the two hives on which they were placed certainly compared very favourably with my other ten which were supplied with the ordinary rack, especially in the matter of perfectly sealed sections. This, I think, is due to wire separators allowing the air to circulate more freely and thus keeping the temperature more even, and as my sections are in frames they can be removed when finished, which prevents swarming, and at the close of the season the unfinished sections, being put into two or three frames and the super reduced in size by a dummy, were well sealed. I will be glad to send up a frame and separators if you care to see them. I should add that each frame has wire separators on both sides.—A DUMFRIESSHIRE BEE-KEEPER, *December 5.*

[While thanking our correspondent very much for offering to forward frame, &c., we will get one from Messrs. Lee & Son, whose place of business is not far from our office, thus saving trouble and cost of postage. —EDS.]

AFTER THE WAR!

BEE-KEEPING IN NATAL.

[4605.] The hives stood where I left them. After two years' absence, I was quite prepared to find them either stolen or deserted; but there they were among the bananas, half hidden in the weeds. The first I looked at was silent and empty. The bees had gone! The white ants, alas, had taken possession. Everything was destroyed, honey, honeycomb, woodwork, and all, the frames broke like pasteboard at a touch. The hive was filled with tunnellings of soil; instead of wax it was honeycombed with clay.

The white ants and their kin were not the only plunderers. The deserted hive seemed to have been a common lodging-house, not only for beetles and moths, but worms, grubs, and shell-less snails, all the hidden, hateful insects of the bush. There was a general stampede when I lifted the lid. Grey lizards darted off, and hideous spiders sidled after them—ugly things, right in seeking somewhere to hide themselves out of sight. The crickets, singers, and their friends remained motionless, but no less on the alert, though as still as a snake as long as observed. The quilt, or what was left of it, was overgrown by a curious fungus. The roof might have been opened as a natural history museum of webs and cocoons. The whole made a pitiful picture of "absentee landlordism," neglect and decay.

The other colony had been more fortunate. The hive buzzed with life, and the super was full of delicious honey gathered doubtless from the mangoe blossom. Though the "boys" had done their best to keep the weed from the house door, it was evident they had kept far enough away from the hives. The front was so overgrown it seemed impossible that the bees could find an entrance. It required quite a gymnastic performance on their part to get in, and coming out they turned an ariel somersault over the roof, then away!

But in spite of weeds, against moths and ants, white, black, red, and grey, big, little, and middle-sized, the bees had held their own.

Not only have they ants and moths, but bird enemies as well. One fine morning I surprised a honey-buzzard sitting on the ground, close by the hive, evidently at breakfast. My coming startled him, and he flew to an overhanging branch and stared down at my green veil as if he had been quite "upset." I sincerely hoped his appetite was spoilt at least for that day!

A few nights later, with a friend's help, I divided the frames. It was a brilliant moonlight. The whole slope twinkled with fire flies, and the moonlight made silver lances of the weeds. We put a new hive in the old place with a queen-cell, and the hive with the old queen on a new site. Now both seem prosperous, I am glad to say.—MARY RITCHIE, *Thornhill, Bellair, Natal, South Africa, November.*

REVIEWS OF FOREIGN BEE PAPERS.

BY R. HAMLYN-HARRIS, F.R.M.S., F.Z.S., F.E.S., ETC.

Deutsche Illustrierte Bienenzeitung (Ost Ungar B. Zeitung)—Treatment of Hives in Case of Fire (Germany).—While trying to subdue a village fire, the men of the fire brigade were attacked by angry bees and thus prevented from performing their duties. A well close by, the water of which would have been available, was rendered practically useless, no one venturing near it on account of the bees, while the men at one fire engine stampeded after several had been stung.

The question arises how to avoid such regrettable occurrences in future, and thus neither hinder the men in their work nor cause destruction of the bees. To stop the hive entrances would most probably cause suffocation to the bees, especially in warm weather. If the fire occurs at night the best plan is to throw wet sacks or rags over the hives, thus cooling the bees and avoiding reflection of the flame, the light from which would bring out the bees

only to perish in the flames. If a cool cellar were available they could of course be put in it, but as a rule no such precautions are thought necessary.

Bienenwirthschaftliches Centralblatt (Angal, Chili).—Some one remarks that "Chilian honey is the pressed juice of palms." Does the writer imagine that palms here grow as thick as wheat-stalks do in the old country? Except grown as ornaments, palms are seldom seen here. In a small place between Valparaiso and Santiago, it seems, there is a small factory for the preparation of "palm honey," but this is far more likely to be adulterated with honey than to be itself an adulteration.

A few words on bee-keeping in Chili might be interesting. The climate is perfect for bees. The summer lasts from six to eight months. Often for months at a time there is only sunshine, but, the nights being cool, it is not oppressively hot by day. In summer the wind is cool, but in winter it blows from the tropics and is therefore comparatively warm. Lucerne, white clover, the vine, besides other flowers, some of which bloom in winter, provide good bee-pasture.

Chilian hives are square without top or bottom, 30 centimetres wide and 20 centimetres high. A board placed over the top compartment or surplus-chamber forms the roof. To secure the honey the board is removed and the bees smoked gently until they have all gone below; the compartment is then severed with a wire and the board replaced. If more room is wanted it is supplied from below.

From the same.—The Bee-Wolf (*Trichodes apiarius*).—A wide stretch of sand used as a military exercise ground at Stade, in Germany, presented a curious appearance a little while ago. The whole surface looked like a garden ant-hill, everywhere the fine grains of sand thrown upwards, and everywhere the small black ant in evidence. Their burrows were found to be full of the *Trichodes apiarius*, and among them a kind of ichneumon fly unknown to the writer. The bee-wolf belongs to the club-horned beetles. At first sight there is some resemblance to a hornet, but it is not so large. It is of a shiny blue colour and hairy (in tufts); the elytra are red, with blue tips and wide blue bands. Up to this time I had thought that the larvæ only were injurious to the bees, and that by their presence in the hives; but the experience of the "sand" was completely new. The bee-wolf takes bees to its nest, and sucks them dry. Several dozen of dead bees lay around on the sand. I was told that the *Trichodes* laid its eggs in the dead bees, but it appears rather that the ichneumon seen in the same burrows takes possession of them, and that its legless and headless larvæ live in them as parasites, singly or several together. The fly itself only takes a little dew or juice from flowers.

The bee-wolf has been noticed on this spot in previous years, but was said to have become more numerous and destructive. It would be very desirable to know of any method of destroying them. Is it likely that heavy rain would have this effect? The drought so long continued last summer may have greatly contributed to their increase.

Le Rucher Belge (from "La Science pour Tous").—A curious experiment is mentioned, in which a doctor of medicine (wishing for immunity from the effects of bee-stings) inoculated his own arm with the bee-poison. He began with the sting of one bee, and then continued with three stings at a time, until at the end of a month (the effect of the poison lessening from day to day) he had scarcely any more symptoms of poison or any unpleasant results whatever.

L'Apiculteur (France).—In a recent number of the "Allgemeine Zeitschrift," Ent. page 298, Dr. L. Sorhagen gives some interesting details on the caterpillar of the wax moth (*Galleria mellonella*). He believes that this creature prefers to live on the brood itself, and only takes the wax as better than nothing. M. Legrain, of the "Société Zoologique Agricole," thinks, on the contrary, that the voracious larva lives entirely on the wax, but when about to pupate attaches itself to the partitions of the hive, using any woody fragments to work into its cocoons. Several generations of *Galleria mellonella* have been raised in captivity with only pieces of wax or empty combs, the female laying her eggs in the cells. A few moths were consigned to the killing bottle and forgotten, but several months later the cocoons proceeding from caterpillars of these moths were found in a cupboard in the midst of some labels which they had torn to fragments and used for their cocoons.

L'Apiculteur. — Some drones have been found in a French apiary with white hairs on their heads. The writer says "the origin of this peculiarity is said to be as yet unknown."

Le Rucher Belge (Belgium).—The use of the veil in all apicultural work is strongly urged, and a curious incident cited as what may result from not using it:—"Visiting my apiary with a friend, suddenly a bee fled directly at him and succeeded in getting into his right ear. In a moment he had fled far from the hives, striking out wildly towards the menaced ear, and crying out, 'The bee is in my ear. Quick—get it out'! Neither hearing nor seeing anything, I thought he must have given himself a blow in trying to defend himself. But no. He complained that he "had a cascade in his head," and begged for some instrument to dislodge the bee. Such was procured, and imagine our surprise to see a bee emerge from the passage of the ear, which seemed far too small to admit her entrance! She appeared to have lost her sting, or the incident might have led to very serious results.'

LESSONS OF THE PAST BEE SEASON.

The following article from the local cover of our monthly *Record*—as issued to its members by the Kent and Sussex B.K.A.—is so well worth perusing by all bee-keepers that we gladly give it the wider circulation afforded by the B.B.J. :—

"December is the month that marks the period of hive inactivity 'inside and out.' Bees and bee-keepers are at rest, so far as operations in the apiary are concerned. But the waning of the year brings us to the turning point—a new period then opens with its pleasant prospect, and another season's work looms into view. December is the month in which we are prone to indulge in retrospect. Sometimes looking back is profitable and sometimes it is the reverse.

"Let us consider from a bee-keeping point of view how we are the richer for the year fast coming to an end? How much has been enjoyed; how much practical wisdom has been acquired, provided, of course, that we have used experience aright? People repine at lapse of time, but if we have to debit ourselves with loss of days, the loss is far more than balanced by ripened thought and maturing of character.

"How much fine honey has been harvested. How many, too, have learned something more and something new about our bees?

"If we carefully 'take stock' introspectively, how we find ourselves the richer for being older, and the happier for being ever so little wiser, leaving altogether out of account what is only secondary in importance, the mere acquisition of £ s. d.

"The season has afforded enjoyable experience, particularly that of a show at the Crystal Palace. Not entirely a new experience to some of our older bee-keepers, but even to them many of the features were novel and instructive. There was a measure of risk in the venture of holding an exhibition of bees and honey so late in the year, and concurrently with that of so old and well-established a show as the "Dairy," but it is now proved that there are plenty of exhibits going for Sydenham and Islington too. Though this concurrence may have detracted in some little measure from the wealth of the displays, any loss in that respect has been more than compensated by the fact that country and long-distance visitors have had the opportunity of seeing two shows instead of one.

"The exhibits at the Crystal Palace were of a high order, and the honey, the bees, the wasps, the appliances, as well as many useful and novel exhibits, attracted hundreds of horticulturists who came to the great show of British fruit.

"The experience indeed was altogether satisfactory, and, if all be well, a similar show will be held at Sydenham again next year. The secretary of the Royal Horticultural Society has very kindly expressed his pleasure at seeing so interesting an exhibit of bee-produce brought together at the same time and under the same roof as the Royal Horticultural Society grand display of British fruit, He tells us that the Royal Horticultural Society have decided to hold their show earlier next year, and suggests that British fruit and honey shall be found again side by side. This is a gracious suggestion, and one which we shall endeavour to carry out.

"Some who exhibited honey in frames at the shows held late in the year, such, for instance, as that at the Crystal Palace, have melted down the combs in an earthen vessel with hot water, and have strained the honey while hot into a ripener, and then bottled off the honey straight away from the tap of the ripener without waiting for it to cool. The flavour has not suffered in the least, but has been rather improved by bottling before the wax has been allowed to cool. It is necessary to desist drawing off the honey some little while before reaching the dividing line of wax and honey, so as to treat the surface residue by cooling and separating in the usual way. The honey thus treated seems to us richer and denser and of somewhat finer flavour than the honey of identical origin thrown out by the extractor in August.

"We mention this to show that there is no disadvantage in keeping frames of comb over until very late for winter exhibitions, and it is to be hoped that our friends will not fail to store frames plentifully in advance, so as to have a grand display of them at the Palace next September."

Queries and Replies.

[2766.] *Transferring from Skeps to Frame-Hives.*—May I ask your advice on the following through the B.B.J. :—1. I have a stock of bees in frame-hive purchased in July, 1900. They wintered well, and I did not put on sections till June, thus all the "fruit-blossom honey" they had for themselves. I have never examined the combs in brood-nest as they are so firmly stuck down with propolis (not having metal ends, only broad-shouldered or wooden ones). If the bees again winter well I should like to transfer bees or combs to a clean hive giving some new frames fitted with foundation. Do you advise this, and what time should I make this change? The old hive requires painting badly. Can I loosen the fixed combs with a chisel? 2. I have had given me two swarms in straw skeps with plenty of honey for wintering, and they are placed on stands near the frame-hive already mentioned. One of the skeps contains a very good May swarm, and I would like to transfer this to a new "W.B.C." frame-hive in the spring by placing skep above hive. Would you advise this, or

shall I allow the skep to swarm, and put the parent stock in frame-hive because of the queen being a young one after the swarm has come off? I do not know the age of present queens in skeps. I may add I keep the bees in a small orchard near the house where we spend each summer—near Chelmsford. The extracted honey I exhibited at the local show (Boreham) last year took first prize and my sections second prize, so I feel encouraged. I manage the bees myself, with the help of the coachman now; at first I got a bee-man to assist me.—(Miss) E. Purvis, *West Hampstead, N.W., December 9.*

Reply.—1. We should on no account advise transferring the skep-combs to the new frame-hive, but leave the old combs in skep and allow the bees to transfer themselves into the new hive as described in "Guide Book" (page 140). The propolised frame-ends will not be difficult to prize up if a screw-driver is used to force them apart. Avoid jarring the frames when doing this or the bees may resent it. 2. It will be a very *safe* way to stock the new hive with an early swarm as proposed, but the plan first named is also safe and simple.

[2767.] *Do Bees Sting Drones to Death?*—It is stated in *Nature Notes* for December that "the honey-bee kills off the drones by stinging them." If that be so, it is news to me. Do you think they do? I thought that bees were much too careful of their sting to part with it over a drone.—F. L. Rawlins, *Rhyl, December 5.*

Reply.—It is seldom safe to rely on non-technical books where bees are concerned. The following view of the matter, taken from the "British Bee-keeper's Guide Book," by our T. W. Cowan, is more to the point. Referring to the drone, on page 10, we read:—"They are called into existence on the approach of the swarming season to fertilise the young queens. At the end of summer, when the honey-flow ceases, or when no longer needed, food is withheld from them by the workers, and they are driven forth from the hive to perish."

Notices to Correspondents & Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. L. (Linton, Cambs).—*Soft Candy.*—The sample sent is excellent in all respects. We are glad to hear of its having been "made exactly according to the instructions in Cowan's 'Guide Book,'" it being unaccountable to us why some—with the same book to guide them—fail to make a good soft candy. It, however, renders plain the fact that the makers, not the book, are at fault when failure follows.

G. W. (Worcester).—*Folding Section-Cases.*—Mr. Sladen, having now returned from his American trip, will no doubt be able to afford information regarding the folding cardboard boxes mentioned by him on page 454 of our issue for November 14. A London firm some time ago devised a folding cardboard box with a small piece of glass let in one side, but we do not think it met with any favour.

D. R. (Blairgowrie).—*Preventing Leakage in Honey Jars.*—1. We do not think there need be any fear whatever of leakage from glass jars when the corks used are dipped in molten wax, as advised on page 91 of "Guide Book." To add resin to the wax prepared for "dipping" would make the removal of corks a matter of much difficulty, and we fear often end in a broken jar. 2. Screw-cap jars are less easy to make leak-proof, as the thin cork-wads are so often full of holes that the honey will get out somehow. In this case also it lessens the risk if wads are dipped in hot wax before laying on the jar and screwing down.

R. F. Patton (Luncarty, N.B.).—*Plans of Bee-houses.*—We deferred reply to your query, having in view the publication of such a plan as is desired, and have no doubt the excellent article on "How to Build a Bee-house," page 486, with working drawings and full details, will suffice for your purpose. In our issues of October 3 and 10 there is also a plan of a smaller house, intended as an apiary workshop, with measurements of material and cost of same. This latter could be readily adapted to hold four or more colonies of bees if needed.

G. E. K. (North Wales).—*Suspected Combs.*—There is no doubt as to the comb sent being affected with foul brood. The disease is of old standing in sample, only the almost dried-up contents of a few cells remaining for examination. Nothing can now be done in the way of safeguarding the healthy colonies which may have carried the infection to their own hives when given the diseased combs to clean up after extracting. You must keep a careful watch on the hatching brood of the healthy stocks in the months of April and May next, and take steps for curing, if diseased, as directed in "Guide Book."

Honey Samples.

L. Higley (Bromsgrove).—Sample is rather coarse in flavour, caused probably by being chiefly from Trifolium incarnatum, or crimson clover. It is also beginning to show signs of fermentation.

W. H. Bennett (Manchester).—The light-coloured sample is very good, and would stand well on the show-bench as a granulated honey. The dark sample is not nearly so good in any respect, and it is just starting to ferment.

E. C. (Newton Abbot).—No, the disagreeable "tack" in your sample is not from the Chapman honey plant.

Editorial, Notices, &c.

SEASONABLE.

Seeing that before our next issue appears Christmas-day will have been numbered with the past, we take advantage of the time-honoured custom by wishing to our readers good health to enjoy the festive season, in whatever direction the bent of their thoughts leads them toward what is good and healthful. Nor do we doubt that all the truly good amongst us, who are Britons—whether at home or abroad—would have felt their thankfulness immeasurably enhanced had we been able to add to our season's thanksgivings the news that the Christmastide of 1901 had brought with it, and for us, "Peace on earth," along with the "Good-will to men" that we hope all who read these lines will feel in their hearts.

HONEY IMPORTS.

The value of honey imported into the United Kingdom during the month of November, 1901, was £2 076.—*From a return furnished to the* BRITISH BEE JOURNAL *by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

SECOND-CLASS EXPERTS' EXAMS.

PUBLISHING QUESTIONS AND ANSWERS.

[4606.] Allow me to thank a "Member of Council and Examiner" for his remarks (4600, page 495) in your last issue, but I am sorry to see that he is not in sympathy with my suggestion.

With regard to area and scope of the examinations, the syllabus of which lies before me, and also the questions set at the late examination for second-class certificates, I think that they pretty well cover the subject of apiculture, about which the writings of our respected Senior Editor, Mr. Cowan, alone are, to say the least, not very restricted, and in his preface to "The Honey Bee" (220 pages) he remarks that "much time has been spent to make the book as concise as possible to bring it within reasonable limits." My idea in suggesting that only *one* question and answer should appear weekly was not to encroach too much on your valuable space, and applied to the questions set at the late examination only, which would not in any way exhaust the subject.

Again, while admiring the aim of the Council at securing independence of expression, I fail to see why any question should appear in exactly the same form, as to enable a candidate to use an answer committed to memory, should even *one* be found so foolish as to do so, and that the subject is not so barren of questions as this, I think the query column of the B.B.J. will amply prove. In my letter I did not refer to any who had failed in passing the examination, but am of opinion that a better guide as to the scope of the examination and the standard of attainment required could not be obtained than the questions set at past examinations, together with "model" answers to the same.

With regard to the examination being "effective" rather than "popular," I would submit that being "popular" would not necessarily make them less "effective," and, for example, I do not think that even "Member of Council and Examiner" would suggest that the great popularity of our worthy Editors' query column detracts in the slightest degree from the effectiveness of the replies, but, on the contrary, adds considerably to their good effect.

I concluded that the second-class examinations were not at present very popular from seeing in B.B.J. the long lists of third-class experts' certificates granted by the Council. In the issue for October 3, 1901 alone, forty-one appear to have been granted.

In the last report of the second-class exam. (*vide* B.B.J., January 31, 1901) three certificates only were granted. I am not aware of the number who sat, and perhaps should not refer to the amount of fees received, as this may be, and most probably is, only a secondary consideration with the Council of the B.B.K.A.; but I cannot refrain from imagining that I should hear a quiet chuckle of satisfaction issuing even from the Council-room of the B.B.K.A. if the entrance-fees of fifty or a hundred candidates were received instead of half a dozen; £50 would add not a little to the effectiveness of the B.B.K.A., of which I am a member.

My suggestion was put forward to meet such cases as that of "W. Snowden" (4601, page 495) in your last issue, and I should like to see all those who wish the suggestion carried out making their wishes known through the B.B.J.; otherwise I am quite willing to let the matter drop.

That it has been the custom in at least one

profession for many years the enclosed cuttings will show, and I should like to have your most reliable editorial opinion as to whether they would tend towards the good or the harm of the subjects they deal with.—"BRIDGEFIELD," *Carmarthenshire, December* 16.

[Seeing that both Editors of this journal are, and have been, members of the B.B.K.A. Council for many years past, it should be obvious that our opportunities for forming an accurate opinion, with regard to publishing questions and answers as proposed, are exceptional. In view of this experience, we consider that the method of dealing with the question is the best that can be devised. Nor have we any hesitation in saying that this will be the general opinion of those who have secured the second-class certificate. Those who have failed will probably differ from us. This, however, does not alter the fact; and, with regard to those who complain after the examination is over and results made known, it merely shows that they are not "good losers."—EDS.]

DZIERZON AND MOVABLE FRAMES.

[4607.] I am obliged to Mr. Hamlyn-Harris for his comments on my remarks with reference to Dzierzon and movable frames. I observe that he reproduces his former statement that "we owe to Dzierzon the fact that during his life and on his initiative the movable frame-hive should have come into general use." I cannot find that he is supported in this belief by any British or American authority, and Dzierzon's own work, "Rational Bee-keeping," appears to me to offer a direct negative to any such assumption. I did not raise the question of the *invention* of the movable frame, but I may remind Mr. Hamlyn-Harris that Langstroth himself generously admits the equal and contemporary claim of Baron von Berlepsch in regard to the invention, while Neighbour informs us that "in 1853 Baron von Berlepsch, by a distinct inventive process, added the frame to Dzierzon's bars."

If your correspondent is able to bring forward any tangible evidence in support of his contention he will find no one more willing to be enlightened on the subject than myself. I should like, however, to suggest to him in that spirit of friendly candour which should animate all followers of our craft that discourteous personal remarks do not lend force or weight to any argument.—A. ROYDS, JUN., *Soberton, Hants, December* 16.

TITS AND BEES.

A CHRISTMAS HINT.

[4608.] It must be somewhere about twenty years ago since I used to write an occasional note on "Enemies of Bees" in the B.B.J., and for about double that length of time I have carefully noted the habits of the various tits round my hives; yet I can truthfully declare that I have never once seen a tit kill bees at the hive entrances. That they pick up dead bees, or those that are numbed on the snow, I admit; also that under such circumstances they carry bees off to some convenient spot, pull them to pieces, and feed on the edible parts, for I have watched tits doing this scores of times, and so far they are welcome to the food they get in this way. But when your correspondent, Mr. Wm. Loveday, on page 496, tells us how he deals with them, it is to my mind cruel in the extreme. He says: "One tit caught in the trap set for it at the hive referred to fluttered a little in the effort to escape, and the bees seeing the rapid motion of the wings, stung the bird. I found no less than twelve stings in its head."

I fancy I see the poor little tit, with wings extended, fluttering for liberty, and in its struggles disturbing the bees far away up in the combs in their snug winter cluster, and brought them down to the hive-entrance to see what the fuss is about, and, instead of the setter of the trap, they find only a helpless bird on which to wreak their vengeance. Now, if other bee-keepers really find the tits destructive to bees in their apiaries, I shall be pleased to give a hint as to a more humane method of getting rid of them:—As Christmas is so near at hand, the bones of cooked meat will be plentiful, and rough fat also; let me therefore advise all readers to hang up some of these waste morsels for the birds. It will interest the children, at any rate, to watch these beautiful birds clinging and pecking off the scraps of meat from the bones offered them, enjoying life, instead of having to endure such suffering as I have referred to.—JAMES HIAM, *The Wren's Nest, Ashwood Bank, Worcestershire, December* 13.

NOTES FROM WYCHWOOD FOREST.

[4609.] Like Mr. Loveday, who writes on page 496, I should like a little light on the matter of railway companies' liability for damage to honey taken at "through rate." How is it that when one refuses to "take joyfully the spoiling of one's goods" the general manager can say his company can undertake "no responsibility for consignments of honey in sections"? They get many claims for damage, perhaps, yet why do they not compel porters to use reasonable care? Boxes may be packed as well as hands can do it, labelled distinctly "Don't jar" and other warning words, yet the honey gets smashed in transit. One box is piled above another on a barrow, and the lot is sometimes shot off to fall where the boxes chance to drop. A relative of mine had £5 worth of honey smashed on rail, and people who send honey suffer more or less, in spite of every care and pack how they will.

Mr. Sladen in his remarks about the Pan-American Exposition speaks of "shipping cases" with a strip of glass in sides. I wonder if there were any springs or other means of any kind by which to soften off the sudden jar caused by dropping a box or jar?

The article by Mr. Davenport in B.B.J. of the 28th ult. (page 478) as to "sacking" up extracted honey after granulation seems to need taking with a little salt before it will go down. When I read it aloud here one voice said, "That sounds like America." Still every new idea is welcome and one must cull the grain and reject the chaff.—J. KIBBLE, *Chalbury, Oxford, November 30.*

A BIG SWARM

AND ITS YIELD THIS SEASON.

[4610.] It is said hereabout that "A swarm in May is worth a load of hay; a swarm in June is worth a silver spoon; a swarm in July is not worth a fly." In B.J. of November 28 (page 477) your correspondent Mr. Belderson mentions a large swarm that did well. Seeing that I had a still larger swarm, and one that did better, I am forwarding particulars, also enclosing a small photo of said swarm. They came out on June 26, and as it was impossible for me to shake the huge swarm into the hiving skep, I hung the latter, bees and all, in the tree after having filled it with bees. The photo was taken a few minutes after the bees had clustered, and when scaled they weighed full 10 lb. net. I put them into a large hive on the "W.B.C." plan, containing

thirteen frames (fitted with 'starters") in brood-box, and on top of this a Standard-frame super with eleven frames of empty comb. In less than a fortnight after hiving, I had to give the bees in addition a rack of sections, and on July 19 (a very hot day) I found honey running out at the hive entrance. I, of course, made an examination at once to find out what was up, and had to remove the eleven standard frames from the super, and these eleven weighed 77 lb. of pure honey. Moreover, the brood-body was almost full, and the combs being new and built from starters only, they could not bear the strain, and three of the combs had broken down. In consequence of this mishap I had to clear away from 12 lb. to 15 lb. of good honey. This swarm has since given about 25 lb. of extracted honey and a rack of twenty-one sections; not only so but the honey from this same hive has been in the prize list every time shown.

I had another swarm next day (June 27), just six, and although it got similar treatment and was standing side by side with the 10 lb. and I only secured about 50 lb. of surplus from it. In view of these results methinks, "*Big* swarms pay, come when they may."—E. W. CARBINES, *Venn, Cardinham, Dec. 2.*

THE "W.B.C." HIVE.

HOW TO MAKE IT.

[4611.] In the BEE JOURNAL of November 3 and 10, 1898, there appeared an illustrated article entitled "The 'W.B.C.' Hive," with plans and measurements, by Mr. Robert Peebles, India-street, Edinburgh. On reading the particulars I decided to make two hives from the directions given, and not having previously seen a "W.B.C." I was entirely in the dark about it. However, I found the measurements very simple, and having made two hives as a trial, found them to answer so well this last season that I have resolved to make all my hives on this plan in future. I remember Mr. Peebles, in his article, mentioned the Editor's being asked if the inner hive-body could be pushed up to front of inner case to prevent bees getting up into the space between. I thought this of importance, and have since seen in catalogues of hive-makers that a piece of wood is used to keep the bees down. Having a piece of perforated zinc in which the holes were rather large, I tacked a strip of this across each of the bottoms of the inner case, and found this answered the purpose admirably without stopping ventilation, so that it seems to be a little improvement to add to the "W.B.C." hive. I offer it for what it is worth, and I hope it will receive the consideration of more experienced hive-makers than myself.—THOMAS NORMAN, *Queen's Park, Northampton.*

RAILWAY COMPANIES AND BEE-KEEPERS.

[4612.] Referring to Mr. W. Loveday's "note" (4602, page 495). As no mention has been made by that gentleman, or other correspondents, as to the way their honey was consigned, viz., at company's or owners' risk—apparently bee-keepers generally are not aware that railway companies have two rates in

operation for the conveyance of honey. If the sender signs an "owner's risk" note, agreeing to relieve the company from liability in the event of loss, damage, or delay, the honey is charged at one-half the ordinary parcels rate, but if the full parcels-rate is paid, the company are liable for any loss, damage, or delay to the honey that may occur whilst in their hands.—W. A. H., *Berks, December* 14.

DEALING WITH FOUL BROOD.

[4613.] I see you have published my letter on page 493 last week, and I beg to thank you for taking so much trouble on my account and devoting valuable space in the B.B.J. to the story of my misfortunes. I also quite agree you are right in withholding names, as I have no wish to do the person referred to any harm, and if he had paid me for the houey taken away with him even just before I wrote to you, no complaint on my part would have appeared in your pages at all. I should have been content to "grin and bear it," so far as regards his "doings" to my bees, and used the experience I have so dearly bought to prevent such a misfortune happening again. But your footnote at the end of my letter shows me clearly that it was my duty to report it in the interests of bee-keepers generally. Permit me, however, to correct a little inaccuracy which appeared in my letter as published. It occurs eight lines from the bottom of page 494, and reads thus:—"I have repeatedly asked to have back either the honey or the money, *but I get no reply.*" The words in italics should be—*but I can get neither.* As a matter of fact, I have had two or three replies, and each time professing great willingness to pay me, but payment has been continually put off on various pretexts, which I do not consider at all satisfactory. The last letter (received about two months ago) contained an offer to pay for 288 lb. of honey, when I am perfectly certain the weight was more like 4 cwt. However, being quite weary of the trouble I was having, I thought it better to take that than nothing at all, and so I wrote expressing this much, and saying that, if so willing to pay me, to do so without more bother. This was about two months ago, and I have not heard from him since. I did not mention this in my letter, being anxious to make it as brief as possible, and confining myself strictly to the points of which I had most to complain.

Again thanking you for the trouble taken. —"X. Y. Z," *Somerset, December* 16.

[4614] Referring to the letter of "X.Y.Z," Somerset, in last week's BEE JOURNAL (page 493), will you kindly allow me, as one of the very few experts residing in the county mentioned, or within a reasonable distance of the same, who answer to the description given, to disclaim any connection whatever with the affairs therein mentioned. I acted as expert to the Bristol, Somerset, and South Gloucester B.K.A. (which I take to be the nearest B.K.A.) until the end of 1899, but certainly had no dealings with the writer, whoever he may be, though if within reasonable distance I should be pleased if possible to help him to overcome his repugnance to "expert" help.—W. A. WITHYCOMBE, *Old Taunton-road, Bridgwater, Somerset.*

BEE HOUSES.

HOW TO BUILD ONE.

[4615.] As a constant reader of the BEE Journal, allow me to tender my thanks to your correspondent "Worker Bee, *Langford*," for the pains he has taken in giving such full instructions in your issue of the 5th inst. on the building of a bee-house, in answer to my appeal. I am sure it will be appreciated by your readers.

Could I trouble him further to ask, how far the "mortise hole" in 7 ft. 10½ in. by 4 in. by 2 in. (6) is intended to go from the 2 in. mark towards the end to make corner of floor? Should it be cut right through to the end, *i.e*, 4 in., or only half way, *i.e*, 2 in.?

Also, referring to the point (8) on page 487, are the uprights intended to be fastened to the floor by corner-plates (or "squares")?

Apologising for intruding on your space.—G. W. BUTTERY, *Wheaton Aston, Stafford, December* 12 ("*Working B*").

HOMES OF THE HONEY BEE.

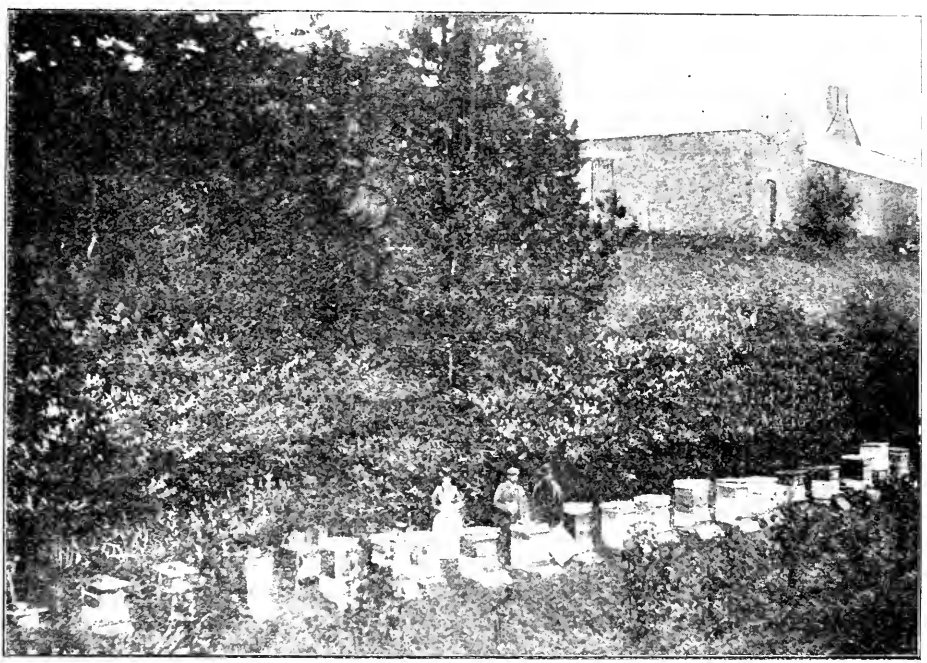
THE APIARIES OF OUR READERS.

We are more than pleased to present a view of Mr. Samways' bee-garden on next page, for the owner is one of the active workers (doubly welcome as helpers) at the craft who are engaged as teachers, and make a special point of instilling into the minds of the boys under their charge a love of bee-keeping. Not only so, but they are instructed in all the practical details connected with the management of frame-hives on modern methods. It goes without saying how helpful such teachers are to us. For the rest, we leave the following "notes" to speak for themselves. He writes:—

"My first recollections of bees go back to boyhood, when the interest then created by my brother's bees led me when the opportunity came, about thirteen years ago, to lay the foundation of my present apiary, my first stock being obtained by exchanging a violin for a straw skep of bees. I had a lively time at first, but persevered, and, as my stocks increased, I commenced to study the subject by reading 'Modern Bee-keeping,' 'B.B. Guide Book,' Cowan's 'Honey Bee,' and taking the B.B. JOURNAL. I progressed in the theory and practice of apiculture until I felt sufficient confidence to try for the B.B.K.A. Expert's Certificate at the examina-

tion held in connection with the late Royal Show at Cardiff. Having succeeded so well there in the handling of live bees, the written examination was next attempted in November last. Being the master of a Board school (exempted from examination), I have, with the approval of H.M. inspector, placed apiculture in my scheme of work in school, to illustrate which I have the B.B.K.A. diagrams, a school museum, in which specimens of objects and apparatus relating to apiculture find a place, in summer one of Messrs. J. Lee & Son's three-frame (£5 15s.) observatory hives of bees in the school window, with arrangements for flight—a very interesting and instructive object to the children. To judge also from the looks of astonishment and intelligent interest depicted on the faces of the scholars when they hear such simple facts as that the bee's body is covered with hair, that it breathes through openings in its sides, that it has a brain and a heart, that its blood is white, and that it can fly backwards, the subject must be a very beneficial one, in arousing in them a desire for information and assisting in making them, after their school days are over, keener observers and in greater sympathy with their surroundings and the enjoyment of country life.

"My apiary could well be termed a 'W.B.C.' apiary, as all my hives are worked on the 'W.B.C.' principle; all frames have the 'W.B.C.' ends, all sections are secured in the 'W.B.C.' hanging frame-section box, all uncapping is done with 'W.B.C.' knives, and the apiary is worked by a 'W.B.C.' expert. (W.B.C., Esq., having been my 'examiner' at the Cardiff Show). Every super is interchangeable throughout the apiary, and all hives have flat zinc-covered roofs. I have tried the Rymer plan, with adaptors made of tin, but the four hives in the left hand corner are swarms, so the plan has not been a complete success with me. I have about 400 shallow frames of comb, and I work chiefly for extracted honey, but when I get a good swarm, I put on a 'W.B.C.' section box. I sometimes exhibit, and hold the Welsh Industries Association's first-class diploma of merit for honey, and also took the first prize for sections in an important local show this season, where the renowned Woodley sections had to take a lower place. I have never been troubled with foul brood. My apiary is nicely situated at the bottom of one of our own fields, facing south, on a low terrace erected for it, with a small brook flowing in front. Our honey season extends from early in April to late in October, though the surplus is mainly from white clover and heather, which is situated about three quarters of a mile to the south. About half a ton of surplus is generally secured in seasons like the past one, and this season's has all been sold out some time ago. I do nearly all my work



MR. HERBERT SAMWAYS' APIARY, LLANDEBIE, CARMARTHENSHIRE.

amongst the bees in the evenings, and my twenty hives do not now cause the annoyance to neighbours that one used to do years ago. With regard to the persons in the picture, the figure in the centre is myself, my wife stands on my right—and is, let me say, an ideal right-hand supporter to a bee-man; she can melt the wax, bottle the honey, label it with her own printed label, pack it, and does not forget to ask me for the cheque that comes by post in the mornings. On my left is my friend Mr. Bevan, a neighbouring bee-keeper and farmer, a splendid manipulator and a most successful exhibitor, who is ever ready to give me a helping hand when needed. He has accompanied me on my bee-driving excursions this autumn, and if the distance is great, puts his horse in the trap, and a pleasant drive soon brings us to the homes of the skeppists. We have saved between us forty stocks this autumn from the sulphur pit. I have induced ten skeppists to purchase and adopt the frame-hive this season alone, and hope to do a little more yet towards spreading a love for apiculture, which you, Sir, through the valuable B. B. JOURNAL, so very ably advocate."

Queries and Replies.

[2768] *Positions of Eggs in Cells.*—On page 10 of Mr. Cowan's book on "The Honey Bee" is the following paragraph:—"It will be noticed that the egg (fig. 1, A) stands in a position parallel to the sides of the cells, and this position it retains the first day. On the second day it is inclined at an angle of 45 deg. (fig. 1, B), and on the third day it assumes a horizontal position (fig. 1, C), resting perfectly flat on the base of the cell." Would you kindly explain why this should be so?—J B., *Polyphant, Devon.*

REPLY.—Your query was so fully answered by our esteemed contributor, Mr. H. W. Brice, in his article on "The Metamorphosis of the Bee," in B B J., vol. xxiii., p. 507, that we cannot do better than quote therefrom as follows:—"On examining a cell just after an egg is laid we find a small white speck standing on end, attached to the base of the cell, and slightly on one side of the apex thereof; it is fixed in this position by a watery, semi-sticky substance, which at this period envelopes the whole of the egg. Within a few moments, however, one of the nurse-bees enters the cell—head first, of course—and, after a few seconds of activity, withdraws and hurries away to the next cell to 'go on' as before. Now, let us examine the cell again, and we find that the nurse-bee has carefully placed the new-laid egg down on its side and in its orthodox and proper position at the bottom of the cell. The egg from this time forward is a matter of constant care and attention on the part of the nurses, who are persistently examining it, probably to see how it is 'getting on.' On the second day we find the bees have shifted its position to an angle of about 35 deg.; on the third it is again moved to an horizontal position; and on the fourth day it hatches out."

[2769.] *Glass Quilts for Bees.*—In your issue of November 7 (4556, page 448) a correspondent, "W. C. H., South Devon," writes in favour of "Glass Quilts for Bees." I would quite agree with him as to glass being suitable for winter and summer passages. But could you inform me—1. Is glass suitable for the purpose? Would it not retain the moisture in the hive? It seems to me it would be more suitable if the glass could be perforated with small holes, like perforated zinc? 2. Is $\frac{3}{16}$ in. not too small a space between glass and tops of frames? or would not $\frac{1}{4}$ in. or $\frac{5}{16}$ in. be better?—GEORGE GRANT, *Waulkmill, Alvah, Banff, N.B., December* 12.

REPLY.—1. Our querist cannot be aware that the suitability of glass as a covering for bees in winter has been discussed at great length in former issues of the B.B.J., and it was clearly demonstrated by the advocates of glass for the purpose that it had no ill effects such as are mentioned. The question will, therefore, remain a moot point, and the best way in which to test the matter is to try it on a hive. To do this without condensation of moisture, plenty of warm woollen covering is needed for the glass. 2. The thickness given for the strips of wood on which the glass rests is quite right, and will give passage-way, as stated.

[2770.] *Making a Unicomb Observatory Hive.*—I want to make a small observatory hive to contain one frame of comb with queen and bees for exhibition. Will you kindly tell me what space I should allow between the glass on either side?—T. K., *Northants, December* 12.

REPLY.—As a general rule, $\frac{1}{8}$ in. is allowed between the face of the comb and glass. It sometimes happens that the upper portion of brood-combs, when filled with sealed honey, are too thick to allow a bee-space between the comb and glass; consequently, it is quite common—especially with home-made observatory hives—to see the bees fast between the glass and comb, and the sealing being industriously nibbled away by the bees too, proved the needful space for passage way. It would assist you very much to have a well-made observatory as a pattern to work from.

TOGGLES AND THE BEES.

A STORY WITH A MORAL.

In the beginning Toggles had been very much afraid of bees, and when he heard a "buzz-buzz" coming nearer and nearer to his head, he had wanted to strike with his hat or

run away into the house. But that was when he first came to the farm. Grandpa explained to him that the bees could hurt him, of course, but they did not want to. They were only very busy at this time of the year, and did not like to be interfered with; and when once Toggles had learned that, he and the bees became great friends.

They usually went to work before he was up, but sometimes he was awake early enough to see the last of them setting off, and however far he might wander during the day, he was almost certain to meet some of them flying home with their loads or balancing upon the clover blossoms.

After tea, when their busy day was over, Toggles would walk down among the hives, all so quiet now, with not a worker in sight except the little bee-sentry pacing back and forth in front of the entrance, and it was as interesting as anything he had ever seen.

He was not afraid of them any more. Except when he was helping grandpa, he never wore a "bee veil;" even then his hands were always bare. Grandpa would open the hives and show him about them, until he could tell what was honey-comb and what brood-comb; he also knew pollen, or bee bread, and could pick out at a glance the queen with her little train of attendants, who never left her, and the great lazy drones, who did no work at all and are just as much as other bees.

When grandpa was somewhere else, he would hammer together the little honey-boxes, called sections, which grandpa paid him sixpence a hundred for making. That was fun; but when the day was warm and grandpa was not watching, it was work, too, and to make a hundred boxes took a good while, no matter how industriously he worked.

But Toggles was learning much those days, so much that when grandpa went away to the city, he left the bees partly in charge of the gardener and partly in charge of Toggles, and that is how there came to be a story for me to tell you.

They had been cutting some bits of comb from the bottom and outsides of the hives, where bees ought not to build comb to put honey in, and the gardener said, "What does he do with these?"

Toggles thought, but could not remember.

"Let's put them down in front of the hives," he suggested. "Then the bees can take the honey in and put it somewhere else."

They did it, and the bees went to work, taking it once.

The next day after dinner, Toggles went down among the hives, and the very first thing that happened was a bee flew straight in his face and stung him right on the end of his nose. He had out the sting in a second and rubbed on some ammonia, but it seemed such an outrageous thing for a bee to do that he put on his veil and went back to see, if he could, what was the matter.

A bit of honey in comb in front of one of the hives was covered with bees, and all around it were bees struggling and fighting, locked together and rolling over and over in the grass. Around at the back some others seemed to be trying to get in where the cover fitted loosely, and inside the buzzing was an angry roar. Toggles went from hive to hive, and in several there seemed to be trouble. What it all meant he could not guess.

Grandpa came at two o'clock, and driving up from the station Toggles told him all about it. Grandpa did not say much, but as soon as he reached home he changed his clothes, and they went out to the bees. Toggles watched him while he scraped the honey from in front of the hives, stopped up the cracks with bits of rags, moved the blocks in front to make the entrances smaller, and quite closed some of the hives. Then they walked off together.

"What was the matter, grandpa?" asked Toggles.

"They were stealing from each other."

"But what made them steal?" said Toggles.

Grandpa sat down and lifted Toggles to his knee.

"I think," he said, "that some little boy put some honey down in front of a hive, and the bees came out to get it, and then the bees from another hive came to get it, and the bees from the other hive went inside to get more, and then other bees did the same things, and by and by they were all robbing and fighting."

"But, grandpa," exclaimed Toggles, "I only did it to help them! I thought it would be easier for them."

"Yes," said grandpa, "so it was. But I'll tell you something worth while to remember. It isn't a good thing for bees or for boys to have things too easy. Now, some boys, when they want money, think the best way is to go to their mammas or their grandpas and ask for it. Now I think it's a great deal better for them to earn it making honey-boxes."

"Yes," said Toggles. "So do I."

—*Scotsman.*

APICULTURE AS A BUSINESS.

At last W. Z. Hutchinson has come to the decision that the business that best combines with bees is *more bees*. He has yielded to the inevitable—to the march of specialism. We may theorise, and plan, and prospect, but to succeed and even make a respectable living from any business in these times, we must specialize. By this I mean that we must select one line of business and push that one thing. Even what a few years ago would be counted as one line of business, we find now divided into several different and special branches. One man's speciality is extracted honey, another comb, a third queen-rearing, and such division and sub-division. It is possible for one man or firm to handle success-

fully several lines, but to do so requires a much larger outlay of capital. The thought is, the specialist, giving his time and enerny to the one thing—mastering all the details and facilitating his production or conduct of the business—is able to discount all competitors who are less well prepared. The specialist having acquired the knowledge and facilities for handling the business, adds to its volume at a very nominal additional outlay, and it is this increased volume of business handled from approximately the same basis of equipment used in the smaller business, that enables the special and extensive operators to discoun the lesser.

It is the argument in favour of great combinations, that the multitude of small factories or businesses, when combined under *one general* head and management, can be run more cheaply than when all run separately and independently. Combination gives power, and an unjust use of this power becomes oppression and extortion. The fact that combination gives a power that often is used for extortion, does not invalidate my argument, but strengthens it—there is no disputing the faet that in union there is strength. The general benefits of co-operation or combination I will not now discuss, nor the wrong use of power which comes of combination ; I have introduced the thought here because specialism and combination are things that must be considered in our business calculations. My aim in this series of articles on "Apiculture as a Business" is to get our ideas down to a business basis. The thing most of all that has prompted thss discussion, is the fact that there is an epidemic bee-fever in Colorado, and very many are rushing into the business, apparently only to make financial failures.

I am going to take the proposition of one going into apiculture as a money-making procedure, calculating cost of equipment and all necessary expenditures, and analyzing the business in its details to the final outcome. This will include a consideration of locality, market conditions, ability of apiarist, and methods to obtain results.

One of the very first and most common mistakes made by all classes is a failure to consider the cost, final chances of success, and, whether there is room and opportunity for their proposed venture. Suppose someone has a longing to embark in the business in my territory here. He thinks I am making money, and surely he is as smart as I am—if Aikin can succeed so can he. He does not stop to think that I am already established in the business, that I have spent years of study and hundreds and hundreds of dollors in investigations, experiments and advertising ; have built up a trade—in short, have spent years laying the foundation for a business. Few stop to consider that it is not a question simply of mere personal fitness, but of preparation and becoming fitted by practice and familiarity with the thing we are to deal with.

I note that many of these investors are paying 5 dols. a colony for their stock to start with. They, being no judges of the condition of the stock, get good, bad and indifferent, various sized hives, ill-fitting supers, queenless colonies, foul stock—many undesirable things. In order to have a basis I shall take the 5 dol. a colony price, considering that this price gets regular hives and two supers to the hive. I shall also consider that 200 colonies will be all the prospective apiarist can handle, and that some experience has been had to enable the owner to begin with a fair foundation knowledge of the management of bees.

The 200 colonies at 5 dols. is 1,000 dols ; honey and storage-room (small), 100 dols. ; smokers, knives, veils, cart or barrow, solar or other wax-exiractor, saws, hammers, and tools to make or repair hives, &c., 20 dols. ; total investment, 1,120 dols.

A 25 lb. yield from the 200 colonies would give 5,000 lb.—but suppose a 50 lb. crop—10 000 lb. According to a former estimate (see article No. 2) 10,000 lb. costs in foundation, sections, and cases, 200 dols. The bees assessed at 1 dol. a colony and at a general total tax of 2½ per cent. is 5 dols.—a total outlay of cash for the 10,000 lb. of honey 205 dols. At the average price noted in article No. 2, this crop of honey being 416 cases and a fraction (we will drop the fraction) brings 915·20 dols Take from this the 205 dols cash paid, and 710·20 dols. remains to pay interest on the investment, and for the apiarist's labour and living.

Now let usrun the calculations through on an average yield of half the foregoing. We have 208 cases at 2·20 dols.—457·60 dols.; taking from this 105 dols. for sections, foundation, cases and taxes, leaves for the labour and interest 352 60 dols. A glance at these figures shows at once that if the owner cannot handle the stock himself and alone, if for any reason he has to have hired help, very little will be left of the income.

But I know many will say, "What of the increase? That is worth something." Let us see what it is worth. A fair increase for 200 colonies would be 100, when handled at all with a view to getting the surplus yields I have allowed in the foregoing estimates. One-hundred new hives, two supers each, will cost in the flat about 1·50 dols. each.; nailed and painted, with starters in the brood-frames, the apiarist doing the labour, the hives cost about 2 00 dols. each. I allowed at the start 5 dols. a colony for the stock purchased to begin with, but it would not be a safe price on the increase. There is a limit to all things. You do not expect to go on increasing and selling your increase to your neighbours to go into business and be your competitors ; and not only competitors, but to overstock your pasturage and cut down your yields. Even if you did expect to sell the increase, there would soon be no market for it—you could not continue that line of policy very long. I should

say that 3 dols. a colony would be a good, big allowance for the increase.

So far, we have gone on the assumption that the original stock remains intact, no losses in winter from queenlesrness or any other cause. A small annual increase is necessary to make up for the unavoidable losses; it is a rare thing to ge through the winter without a few losses from queenless colonies at least. This necessitates, then, some additional capital invested in hives. If we must, in order to keep up the stock, have some extra hives for increase, our capital put into the business is greater than the 1,120 dols. given at the start. To have a really safe basis to keep up the original stock, one should have about twenty-five extra hives, making so much increase in them to be doubled back or substituted for the unavoidable losses.

There is still another item not yet considered. No matter whether the yield be 5,000 or 10,000 lb., there will be of necessity a surplus of sections and foundation, for one cannot time to an exact count. The unfinished sections left over when you have cleaned up 5,000 lb. of marketable honey, or any other amount, will be from 10 to 20 per cent., sometimes reaching 40 or 50 per cent. This represents only the sections used or placed on the hives, while there must, of necessity, be an additional stock carried in order to have enough. If we anticipate a 10,000 lb. yield, we can scarcely do less than buy and *put up at least* 10,000 sections, even though we do not get half of them filled. And, if one expects to do the work and care far the stock himselt, it becomes a necessity that all *prospectively needed* hives, sections, and all supplies except cases, be purchased ahead and prepared, enough to hold the biggest crop *expected*, for 200 colonies will keep one hand hustling during the honey-flow.

These extra supplies needed and carried in stock, must be added to the investment in bees, honey-house, and tools. Two hundred colonies in one apiary are too many—they should be in two places. If in two yards, a horse and wagon will be needed. Without any more itemising, I am going to put the necessary money capital to be invested in a 200-colony business, where 5 dols. a colony has to be paid for the bees, at 1,500 dols. Ordinarily it is not done for less.

In the foregoing estimates I have put the figure much higher than any green hand could accomplish. I have taken it for granted that *all* the product was No. 1 honey, whereas the inexperienced would have from ⅓ to ⅔ No. 2 and culls. For the past ten years I put my own general average at 40 lb. My general average price has been, for all grades, about 2 dols. a case—8⅓ cents a pound. Sections, foundation, and cases cost 2 cents, or 80 cents a colony. Investment for 200 colonies and equipment being, as per previous tables, 1,500 dols., I allow on this 10 per cent. for interest, and 10 per cent. more for wear and tear—20 per cent. of 1,500 dols. is 300 dols., or 1·50 dols. a colony. A 40-lb. yield at 8⅓ cents makes the gross income per colony 3·33 dols. Deduct from this the cost of sections, foundation, and cases, interest, and wear and tear—the 20 per cent. on capital invested—2·30 dols. a colony, leaves me 1·03 dols. a colony, 200 colonies giving me the sum of 206 dols. for my labour and caring for them.

If this is the way it turns out with one of so large an experience, what must be the result when an inexperienced person is doing the monaging! There is no money in the business here except in the hands of practical apiarists. —R. C. Aikin, in *American Bee Journal.*

PRESS CUTTINGS.

HONEY AS A PERFECT FOOD.

Few people know that honey possesses great value as a food on account of its ease of digestion; for which reason it is especially desirable for those with weakened digestive powers. The nectar of flowers is almost entirely cane sugar. The secretions added by the bees change this to grape sugar, and so prepare it that it is almost ready for assimilation without any effort on the part of the stomach. The unpleasant symptoms from which some suffer after a surfeit of honey may often be removed by drinking a little milk. And yet so valuable a food as honey is daily adulterated with glucose, to which we refer in our opening paragraphs.—*Science Siftings.*

WHAT NEXT!

Under the heading, "Traps for Food Cheats," we read the following tit-bit in *Answers* of November 30:—"The purchaser of honey vainly imagines that swindling is impossible if frame-honey is bought. The fact is that clever bee-keepers now make perfect imitation combs out of paraffin-wax, and put these into the hives for the bees to fill and seal. To test it, pour a drop or two of sulphuric acid upon the comb which is on trial. Good beeswax will char and blacken under the acid, but upon paraffin no effect will be perceptible."

CHURCH-GOING BEES.

Not long since an extraordinary quantity of honey was taken out of the roof of Huggate parish church, Yorkshire. How this came about is explained by the rector's daughter, Miss Jolley, who indulges in bee-keeping as a hobby. It seems that some two or three summers ago a swarm of bees was seen to leave one of the hives. They eventually disappeared under the church roof. Three attempts were made to fasten them in, twice with mortar, which they broke away, and the third time with cement, when they found an exit into the interior of the church.

Eventually the colony of bees were becoming so strong that it was deemed necessary to starve them out. When the slates were

removed under the lath and plaster was seen the brood-chamber, which curiously resembled the interior of a bar-frame hive, as the combs were built in straight lines, one behind another, each attached to a lath and long piece of plaster, and were handed down like ordinary frames. On the other side of a partition was found the honey-store; beautiful white combs, filled with white-clover honey. One comb was nearly 2 ft. long and about 6 in. deep. Close upon a hundredweight of honey was taken out, in addition to a number of empty combs.—*Hull Daily News.*

AN ENTOMOLOGICAL CURIOSITY.

Mr. S. Knight, junior, the local bee expert, made an interesting discovery while examining a lock at the Newbury Workhouse recently. A "leaf cutter" bee had built a perfect nest under the levers of the lock, thus preventing it from working properly. The bee had carried the whole of the material of the nest through the keyhole, which only measured $\frac{5}{16}$-in. in diameter. Mr. Knight states that "mason" bees have been found building in locks before, but he had never discovered a "leaf cutter" bee so situated. This is an object of interest to entomologists.—*Marlborough Times.*

EXPORTED BEESWAX.

Several hundred thousand pounds of beeswax are produced every year, and much of it goes into commonplace uses. Shoemakers, dentists, and thread manufacturers use it. Glassworkers, too, require it for moulding purposes; but the interesting part of the beeswax business comes when it is exported to Russia. The Greek Church uses nothing but pure beeswax for its candles; this, apparently, is an ecclesiastical law. So beeswax is exported in enormous quantities to burn in Russian churches. When the price is low all that can be procured is bought up for exportation.—*Glasgow Evening Citizen.*

THEFT OF HONEY AT NEWHILLS.

In Aberdeen Sheriff Court recently—Sheriff Henderson Begg presiding, Alexander Milne, sawyer, Kingshill, Peterculter, was charged with having, on November 30 or December 1, in the garden in front of the dwelling-house on the farm of Bellfield, Newhills, occupied by Robert Mann, mischievously removed or destroyed 25 lb. of honey from a bee-hive. Accused pleaded guilty.

Mr. Charles Wilson, procurator-fiscal, said probably the accused had thought honey was good for the cold.

The Sheriff: He did not require 25 lb. of honey for a cold.

Accused said he was the worse for drink at the time he committed the offence.

A sentence of £1, with the alternative of seven days' imprisonment, was imposed.—*Aberdeen Journal.*

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Special Notice to Readers.

*** In view of the Christmas holidays—which necessitate our going to press with next week's B.B.J. on Monday, the 23rd inst.—we will be much obliged if correspondents will forward "copy" to reach the office not later than the morning of that day. Advertisements also should be received by same post. By attending to the above request, communications dealing with subjects under discussion during the current year will have the advantage of being included in the same volume, along with the context. This will obviously tend to the completeness of vol. xxix. as a whole for binding.

G. F. O'Fflahertie (Netteswell).—*Second-Class Experts' Examinations.*—Our correspondent surely is not serious in asking us to publish his letter on the above subject? We cannot understand the offer to *lend* the "papers of late second-class examinations if 'Bridgefield' and 'W. Snowden' will return them after reading." Does Mr. O'Fflahertie mean to say that he was examined for the second-class certificate, and retained the papers used on the occasion? If so, we will be glad to be informed of the fact.

T. Ormesher (Ormskirk).—*Mead-making.*—For 1½d. in stamps we will post you copy of B.B.J. with an old recipe for making mead, but you would do better with the Rev. G. W. Bancks's pamphlet on the subject. This can be had, price sixpence, from the author, addressed to Darenth, Dartford, Kent.

J. T. Harveyson (Finchley).—*Ancient Bee-Books.*—Warder's book, "The True Amazon; or, The Monarchy of Bees" (1726), is, of course, a "scarce book" in the ordinary sense of the term, but it is to be met with not seldom in shops where old books are made a speciality of and on bookstalls, so that it cannot be classed as a "rare book."

Honey Sample.

R. Winter (Anerley).—1. The honey is from mixed sources; quality fairly good, but a long way from first class. 2. It is quite usual for pure honey to granulate if kept for a time.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

The monthly meeting of the Council was held on Thursday, the 19th inst., Mr. F. B. White occupying the chair. There were also present Miss Gayton, Hon. and Rev. Henry Bligh, Messrs. Broughton Carr, J. H. New, W. F. Reid, E. D. Till, T. I. Weston, and the Secretary. Letters apologising for enforced absence were read from Col. Walker, Mr. W. H. Harris, and Rev. W. E. Burkitt.

The minutes of the previous meeting were read and confirmed.

The following new members were elected :—

Wm. Richards, Gabalfa, Cardiff.

E. J. Burtt, Stroud-road, Gloucester.

The Chairman presented the report of the Finance Committee, giving particulars of income and expenditure to date. A number of payments were authorised, and the report approved.

Among the correspondence brought forward for consideration were a number of letters relating to the proposed "insurance" scheme. An offer by Mr. Carr to insert in the next issue of the BRITISH BEE JOURNAL a supplement giving particulars of the scheme was accepted with thanks.

The report of the Association's expert upon the condition of the apiary at the close of the season was received.

In regard to the question of "duplicate prize-winning" at shows, adjourned from the last meeting, it was resolved to insert in the regulations a proviso that "No exhibitor may take more than one prize in any one class."

The next meeting of the Council will be held on Thursday, January 15.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter as well as the page on which it appears.*

NOTES BY THE WAY.

[4616.] The weather at present is of the kind we associate with Christmas ; in fact, the landscape is one vast Christmas card—every bough and twig incrusted with rime. Fortunately, we have had no heavy fall of snow, so that, with frost and dry weather, our roads are in good condition, and skaters are looking forward to a good time, as are also the children with the prospect of sliding. Quietude reigns in the apiary, not a bee venturing forth even when the sun shines on the hive-entrance except when disturbed by the tits, which are again to the fore in their usual numbers, and busy, as usual, devouring the bees as opportunity occurs. On the top of one hive I counted twenty-seven stings which "Thomas Tit" had extracted and wiped off his beak in one afternoon. Now, if these stings were from *dead bees*, I ask, Would there have been enough moisture left in the dead carcases so that the extracted stings should adhere to the wood cover of the hive ? I myself believe the tits prefer to be their own butchers rather than act as scavengers in clearing up the dead bees off the ground.

Wax Making.—I feel sure that some practical articles on wax making would be acceptable to many readers of the B.B J., and trust some one amongst the uniformly successful wax makers (say Mr. Jno. Berry or Mr. W. A. Seymour) will in their spare evenings during the winter give us their methods of cleansing the wax and making it into the perfected article ready for the show-bench. We also require a better wax extractor than the old style "steamer" system ; an article by which pressure can be exerted on the hot mass of old combs, &c, and force the wax from the cocoons and other debris. Who amongst our manufacturers will produce the thing wanted ? Then, again, we want a better solar wax-extractor ; now is the time to set about making one so that it shall be ready when required another season. I have no doubt our Editors will gladly give space for any descriptions of these useful labour-saving appliances in these columns. When all the coal and peat is used up, if electricity does not step in to warm up the dwellings of our successors they will still have the sun's rays, and the man who can bottle them up for everyday use will be a great benefactor to the *genus homo*, and the man who can invent a really practical solar wax-extractor will be a benefactor to his brother bee-keeper of this day.

There are other things which we want, and others which will bear improvement, but space forbids to-day, as it is Christmas time, and others will, no doubt, be sending the old-time greetings to the bee-keeping friends who peruse these pages. Therefore, I will close another year's correspondence with the wish to every one that they may spend a joyous Christmastide.—W. WOODLEY, *Beedon, Newbury.*

APICULTURE IN CHILI.

[4617.] The article contributed by Mr. Hamlyn-Harris, as an extract from the *Revue Internationale d'Apiculture*, in your issue of September 5 last (page 358), calls for some comment, for the purpose of showing how diverse are the climatic conditions to be met

with in Chili, and as of interest to the apiculturist.

I should think the region of Serena must be pretty near the northern limit of practicable apiculture in this country—latitude 29 deg. 54 min.

I am situated near 38 deg., while the whole territory extends from 18 deg. 40 min. to 55 deg. 59 min. In the extreme north rain never falls, and consequently no place for bee-keeper nor bees; whereas in the region south of this—about latitude 40 deg.—rain is constant all the year round, not the most desirable location for the bee-keeper either.

It may interest some readers to know that the mean rainfall varies from 12 millimetres in latitude 27 deg. to 2·860 millimetres in latitude 40 deg.; further south, to latitude 53 deg. 10 min. (Punta Arenas) the rainfall decreases to 550, of which one-fifth is snow. My own experiences extend to regions from latitude 33 deg. to 39 deg, and I flatter myself in thinking my own situation about the happy medium as to extremes of temperature, moisture, &c. After twelve years' experience here, I am prepared to say that the swarming fever referred to in the "Revue" is by this time so much eliminated with me, that I can work under quite as high pressure as at home. When I first commenced the bees would swarm in spite of extractor or unlimited working room, and, of course, to work for sections was out of the question. Now I get 2-lb. sections worked with greater certainty than the 1 lb. are at home. Of course, I use the "B.B.K.A." standard frame. All the bees I meet with in apiaries here are the Italian race.

With me, swarming begins about latter part of November. Honey begins to come in as surplus in December, the heaviest months being January and February.

The statement that the produce of 500 colonies amounted to 36,400 lb. of honey goes to confirm what I have been trying to drive into the heads of some of the bee-keepers here—to wit, the mistake made in laying down apiaries of over 100 colonies; the vogue here is 500 or 1,000 and upwards. Notice what follows in the article referred to, "ninety-five colonies gathered 18,000 lb." I have taken 250 lb. to 300 lb. in my own apiary from one hive when no swarm has issued, and over 150 lb. from a swarm hived in December. The statement that the native Chilian does not eat honey is not my experience.—J. R. W. Hole, *Ercilla, Chili, November* 5.

COMMENTS ON CURRENT TOPICS.

[4618.] *Mid-rib of Sections.*—To secure a perfect section this objectionable feature of comb honey must be entirely eliminatee. The foundation should melt down in the mouth so that its presence is incapable of being detected. This is generally obtained owing to the superior grade of super foundation now produced. As a result of the keen competition, inferior kinds are being jostled out of the market, with the result that soon we will arrive at the happy time when we will have only the survival of the fittest. Small dealers, however, still invest in inferior grades, and keep it from year to year until, when sold, bees at times decline to work it out, owing, I think, to its being contaminated, while lying by, with offensive odours imparted by other goods stored in close proximity. This can be avoided by purchasing first-hand from the maker, or a recognised agent, who will warrant its freshness. Even foundation of a superior make at times deteriorates so much that from some cause a distinct midrib results. I had proof of this during last season when visiting a friend who had purchased a pound of such foundation. Every single section built from it showed distinct midrib. In 1900 some of my own sections showed the same objectionable feature from another cause. The foundation contained some sheets appreciably heavier than the others. Where the extra wax lay at the base of the cells the bees did not seem to hollow it out, with the result that there was an appreciable midrib; but, where the extra wax formed the cell walls, this had been used by the bees in the lengthening out and finishing off of the cells. I am not certain, but a third cause of midrib may be named. The added toughness in foundation made by the new process is an excellent thing in the brood-chamber, but in the case of super foundation there may be a danger of its being carried too far.

Light-weight Sections.—I overlooked a question on this subject by a "Birmingham Bee," who queried some time ago, "As there can be no such thing as a standard density of honey, how can our friend 'D. M. M.' talk of light-weight sections?" I had no thought of *density* when I used the words, but spoke of sections, favoured by a few, with a cubic capacity less than our "Standard" one, which holds, as a rule, just 1 lb. of honey. When sealed, these smaller one would weigh *less* than a pound, and, therefore, would deserve the designation of *light-weight sections.* Society righteously brands such weights with even a stronger and harsher name. I trust that whatever innovations may be introduced a pound section will be made to weigh the full number of ounces.

Dividers.—Anything which will be a means of giving the bees freer intercommunication in a rack of sections may be set down as a "boon and a blessing" to the craft. So I for one would hail the introduction of some such device as Mr. Sheppard (4595, page 484) mentions is under trial; and if so excellently practical an apiarist as our friend of the "Model Apiary" considers them a likely success, they deserve at least an extensive experimental trial all over the country. I am glad to see that a Dumfries bee-keeper is already able to speak favourably of a somewhat similar innovation,

though those he uses appear to be more complex than I think it would be desirable to work for. Our editor, however, after examining them, may be able to give a favourable opinion of their working. I sincerely trust he will.

"*The Life of the Bee.*"—I have nothing but words of praise for M. Maeterlinck's book, and I look on it as a prose poem on the bee of the very highest order. I would, however, much prefer if it had not contained a single word of the moralisings of his physiologist friend. This is an excrescence pure and simple which could well be lopped off.

Section 94 in particular is a blot on the fair fabric, and tends to mar a noble work. The whole reasoning, to my mind, ends with a questionable deduction from an unsound premise. "The short but simple annals of the poor" are *not* lying, deceit, hypocrisy, and all uncharitableness; for "certes in fair virtue's heavenly road the *cottage* leaves the *palace* far behind." Living amongst a "virtuous populace" of peasants, and knowing their weakness as well as their goodness, I must enter my caveat against any charge of "general malevolence." No other section of the community so fully carries out the Divine injunction to "weep with those who weep; no other so whole-heartedly shares in the joys and sorrows of their fellows. Love, reverence, affection, devotion, to our peasantry, are not mere names, but actual *realities* forming vital parts of their very being.

Finis.—Yes! everything must end, and to-day we shall all add the last stone to the "cairn." Our last contribution to vol. xxix. has been written, and for good or ill it is there—a "lasting monument of words!" I fear a small percentage of it only will ever be re-read. But when I recall my own novitiate days and the avidity with which I read everything tending to guide me straight in the crooked and thorny maze of bee-keeping, and then reflect how many novices enter our ranks each successive season, I take heart and think that, perhaps, some of it may have been a benefit to somebody. Indeed, I have re-received many assurances that what I have written has not all been labour lost.—D. M. M., *Banff.*

SOME ESSEX BEE NOTES.

TITS AND BEES.

[4619.] *Deductions from a Christmas Hint.*—In reply to Mr. James Hiam (4608, p. 502) I would, with all due respect to your correspondent, point out that circumstances so completely alter cases that to say outright that what birds do in one district they will not do in another under entirely different circumstances is only a one-sided argument. I feel it to be quite a misfortune that enough and to spare of the dainty morsels of the festive season (to which, in Press phraseology, ample justice had been done) only come this way in such small quantities that humble folk like myself are compelled to adopt the only alternative course, and my children are deprived of the amusement that they otherwise might enjoy. Those best able to judge know how much I admire even the smallest creatures, and if circumstances allowed I would probably build a tower full of holes and chinks where the starlings and tits might find nesting places, which even Miss Jenny Wren could not despise. I would have this tower on a kopje that would be a stronghold for bunny. But I am enabled to assure your correspondent that the tits here are not content with picking up the dead cast out bees, but that hundreds of bees are brought down to the entrances of the hives by the picking and scratching of the tits at the entrances, and snapped up by them. Nor do they leave the hive for the trees to eat the bees; this is notably the case in early morning when the tits are hungry, they then remain, if undisturbed, till their breakfast is over, and if unable to count the bees as snapped up, it needs only to go to the hives and count the bee-stings left by the tits wiped on the edges of the porches and flight-boards. It is their rule to extract the sting before eating the bee, and wipe it from their beak on the nearest piece of wood. Driving the birds away has no effect, once they have acquired the habit of eating bees. After reading my "Note," Mr. Hiam seems to have drawn largely upon his imagination for the sufferings of the trapped bird, which latter was stung by the bees it had disturbed. Caught by the neck in the trap and stung by a dozen bees, the bird only lived a few seconds. Nor is the actual loss of bees eaten by tits the only damage, there is the loss of bees by the disturbance, bees at such times take wing, never to return, thus causing greater loss than by those eaten.

Bees have fewer enemies when the bee-keeper is fortunate enough to be able to carry on his work near his dwelling-house, and things are then more comfortable all round.

Railway Companies and Bee-keepers.—When concluding my first note on this subject I did not make my meaning quite clear. What I wished was for someone with more time and means at his command would do. When a company is formed to construct and work a railway they have first to obtain an Act of Parliament, which secures to them the necessary powers. Having obtained the necessary powers they become carriers of the produce of the districts through which their railway runs, and pledged themselves to do this work. I therefore think that the company cannot legally, say, later on refuse or decline responsibility later on. I was told by a representative of the Great Central Railway that they were so busy they did not care whether or not they carried honey. In thanking "W. A. H." for his letter (4612, page 503), I may say that I did not refer to the half-parcel rate at owner's risk, because I

thought that every beekeeper knew of it. I usually send my honey at that rate, and I have before me as I write a consignment note for such. On the back of these notes the company gives all particulars as to their liability and non-liability; but if a parcel is carried at full rate the railway company is liable for damage if the fault is theirs. The parcel referred to in my first note was sent at half rate, the honey took first prize in its class at the Crystal Palace, and, as is often the case, the show committee did not fill in the form for return of the parcel at half rate. It was returned at full parcel rate. I was entitled to the amount of my loss, the honey being well packed.

"*The Final Show of the Year.*"—Such is the heading of an account of a show in the B J. of December 5, p. 482. But why should this be the final show of the year? Are the public for ever to be left in the belief that honey, like bees, is only to be had under circumstances that are quite exceptional in winter? There are expenses which are necessarily incurred in arranging a honey show, and from November till March the number of other attractions to which a show of honey could be added is small, I know; but I think that these difficulties are not insurmountable, though we have the best conditions for hibernating with us in frost and snow. The Royal Horticultural Society hold a show of flowers and fruit fortnightly for the greater part of the year at the Drill Hall, Westminster, and I think the bee-keepers of the United Kingdom could very well make a considerable show monthly through the winter.

Flowers, fruit, bees, and honey are inseparably connected. I think that it is of the greatest importance that we should have every possible opportunity to make a display of British honey, and to educate the public to the fact that we can supply honey in any form in good condition all the year round. Large displays of honey could not be expected in winter, but if arrangements could be made with a society holding shows at short intervals, the several classes could be sandwiched between other exhibits in a way that would be beneficial and pleasing to all concerned. If the Council of the British Bee-keepers' Association can accept this suggestion and make the necessary arrangements for next winter, I believe they will have the support of bee-keepers generally.—WM. LOVEDAY, *Hatfield Heath, Harlow, Essex, December* 21.

DZIERZON AND MOVABLE FRAME-HIVES.

[4620.] The question raised by Mr. Royds (4594) is of so much importance in the history of bee-keeping that I hope I may, without offence, attempt to elucidate it. There can, I think, be no doubt that although Dzierzon was the first bee-keeper of note on the Continent to adopt movable comb-bars in his hives, and that he used them with great skill and success, he was opposed to frames, especially in brood-nests, on the score of their limiting the natural expansion of the combs by the bees to the walls of the hives. It must be remembered that as his hives opened at the back, and that the combs were to be drawn out one by one horizontally, it was a much easier matter to cut through the comb attachments with a thin sharp knife, than would be the case in our modern frame-hives.

As regards the creation of the Berlepsch frame, there can be no better authority than Professor Von Siebold, who was intimately acquainted not only with both Dzierzon and Berlepsch themselves, but with their respective apiaries. The following passage—a footnote from page 45 of Siebold's "True Parthogenesis," English translation, 1857—settles the matter: "As the lateral adhesion of the combs built down from the sticks frequently rendered their removal difficult, Berlepsch tried to avoid this inconvenience in a very ingenious way, by suspending in his hives instead of the sticks small quadrangular frames. . . . by which the removal and suspension of the combs are greatly facilitated, and altogether such a convenient arrangement is given to the Dzierzon hive that nothing more remains to be desired." Hence, as Messrs. Dudant tell us in their revised edition, 1890, of "Langstroth on the Hive and Honey Bee," the German frame-hive is known as Berlepsch's. It soon became very popular on the Continent, where the observant traveller may still see it in common use, especially in bee-houses, and it found its way to America. Thus much, at all events, in the matter of movable frames do we owe to the "initiative" of Dzierzon.

To what extent Langstroth, who, as Mr. Hamlyn-Harris informs us (p. 493, B.J.) was born within one month of Dzierzon, was spurred on by the initiative of the latter to the invention of his well-known movable hive-frame, only his intimate personal acquaintances could say; but we learn from the book just mentioned that Langstrothe took out his patent "a short time" before Berlepsch invented his frames. And as far back as 1837, Major Munn, a well-known English bee-keeper and writer, invented solid wooden frames, both square and triangular, for use in his ingeniously devised hives; and, to use his own words, "a lawsuit in America quite decided the question of the bar-frame hive being the invention of an Englishman, and not French, German, or American, as had been supposed." It is probable that both these inventors were as much indebted to Huber, and the frames of his leaf-hive, as to any other source of inspiration.

In the fifteenth chapter of the Fourth Book of his Treatise on Bees, Della Rocca informs us, on the authority of an Italian writer, Contardi, that the practice of making artificial swarms by means of transferring combs (fixed on movable

bars) from one hive to another obtained amongst the ancient Greeks, and as Della Rocca assumes, was transferred thence to Germany; but that in his time (Della Rocca's) 1790, it was restricted to the Isle of Candia. If so, it was probably revived; for John Milton tells us in his "Practical Bee-keeper," 1843, that "a few years ago about a hundred Grecian hives well stocked with combs and honey, reached a mercantile firm in London, to whom they were consigned for sale." They came from Athens, and Milton bought one, of which he gives a figure. It is a pointed skep, to be used big end upwards, with the door below, near the point, and has the wooden bars for comb attachment. "From the appearance of these combs . . . . the bees had worked them parallel with the bars on the top."

The Grecian hives and the system of working the movable comb-bars was fully described long before Della Rocca's day by Sir George Wheeler in his "Journey into Greece in the Company of Dr. Spon, of Lyons" (London, 1682, folio), parts of which were quoted by Mills and other English bee-men; and, with all deference to Mr. Hamlyn-Harris, Della Rocca was not the first to apply movable comb-bars to a wooden hive. One, John Keys, was before him, as his "Practical Bee-Master," written (in 1780) after "long experience," shows that he used three bars of wood let flush into the top rims of his boxes, but "so that the bars may be taken out separately." Each of these bars was to take two combs, but afterwards ("Ancient Bee-Master's Farewell," 1796) he increased them to six, each for a separate comb, adopting, I am sorry to say, the retrograde practice of fastening them together by a fillet of wood. For the matter of that, the bars in the Grecian skeps were fastened down by clay. It is not quite clear how Della Rocca's were secured in position, but he covered the top of his hive with nine. I do not think Della Rocca's hive was at all generally adopted, and Key's bars seem to have met with little favour. The credit of reintroducing the movable comb-bar system belongs chiefly, if not altogether, to Dzierzon, but his fame, which will endure as long as bees are kept by bee-keepers, rests on a far grander and more solid foundation.—H. J. O. WALKER (LIEUTENANT-COLONEL), ("South Devon Enthusiast"), *Budleigh Salterton, December* 22.

NOTES FROM MERIONETH.

MID-WINTER.

[4621.] I write these lines on the shortest day of the year, when the ground is thickly covered with snow. This part of the country may be rightly called the "Highland of Wales." Our neighbourhood is surrounded by lofty mountains, very steep and rocky. All of these have been covered with snow for the last fortnight. We are well accustomed to hard weather, but the present one is more severe than any I can recollect for some years past. First of all we had a terrific gale, driving the heavy rains into the dwellings of bee-keepers as well as bees. My bees suffered a great deal, notwithstanding all precautions.

I buy my hives from two well-known advertisers in B.B.J. But I am sorry to say that the hives of one firm do not withstand the rains, while the make of the other is a veritable rainproof. Hive-makers, please note. One night I went to my garden about one o'clock to see how were my hives, and found one blown over, with scores of bees dying on broken combs. They belonged to a strong lot of driven bees, and I am afraid I cannot bring them safely through the winter, as the better part of their stores is gone. Is there any hope for them to survive when they must depend entirely on candy?—J. B. WILLIAMS, *Gelli Lydan, December* 20.

ENEMIES OF BEES.

MICE IN WINTER COVERINGS.

[4622.] I am a good deal troubled with mice in my hives, and in consequence I place traps on the top of the quilts to catch the intruders. I have in this way caught about half a dozen mice this year. Through my own neglect last year Mrs. Mouse made her nest in one of my hives, and in forming the latter tore the quilts to shreds, and the fluff of the woollen material so choked up the space between the frames with the débris as to make passage-way between the combs impossible for the bees.

About a fortnight ago, as I was going my rounds among the hives, gently removing the hive-roofs, I came across a hive that had no trap on the top of the quilts, and I found in this case that Mr. Mouse had been assisting his good lady by committing similar depredations to her own. He tried to climb out of the hive, but failed, and then he darted all over the hive, and finally made his way down among the frames of the body-box. Much as I disliked the idea of the mouse remaining among the combs, there was no help for it, for I did not care to lift out at this season to get rid of the "bee enemy." I therefore fixed a trap on the top of the frames, and left it for twenty-four hours. On again inspecting the hive I found the trap sprung, but no mouse was inside. On turning down the top quilt I saw the "enemy" trying to hide away in the coverings. I shook it on to the top of the frames, only to see the disturber dart across and try to climb out; but the disturbance had aroused the bees and their temper, and they all came to the top of the frames. Mr. Mouse tried to climb out; nine or ten darted at him. He curled himself up and dropped on to the frames again; he ran a little way again; they stung him so sharp, he curled himself up again; he got up again and ran, and tried to climb out again. They darted at him again. He dropped down

again. He ran a little way, and put his head down. The bees then made an attack on me as well. I ran into my house, and gave the bees fifteen minutes to see what they would do with him, and returned to them again. They made another vigorous attack on me. There was a patch of bees on the top of the mouse. I made bees all go down to their proper quarters; and there lay Mr. Mouse, dead. I gave them a lump of candy about ½ lb., and covered them down.—A. L., *Linton, Cambs.*

BEES BUILDING IN A TREE.

AN INTERESTING PHOTO.

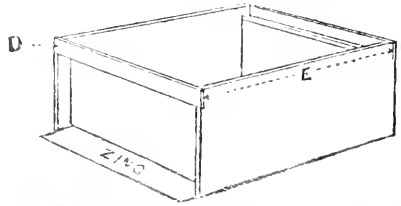
[4623] I send herein a photo showing a swarm of bees in a high tree. The negative was given me by a friend, an amateur photographer like myself, who knew of my interest in all pertaining to bees. It is especially interesting to me because particulars of the same swarm have appeared in your pages over a year ago—*vide* letter of our friend "Tom Sleight" (4138, page 447) in the B.B.J. of November 15, 1900. Mr. Sleight was misinformed with regard to the said swarm flying five miles before settling in the tree "in a wood on Lady Carnarvon's estate," &c. The friend to whom I have referred lives on Lady Carnarvon's estate; and as I know the B.B.J. likes if possible to be accurate in its printed statements, I beg to say the swarm in question was supposed to have issued from one of Lady Carnarvon's own hives, located about 400 yards away from the wood. On Taversal Manor (not "Loversal," as stated in your pages) one of her ladyship's gardeners cut the bees and the six combs from forked branch of the tree, and no doubt to see them so built, with combs 15 in. deep by 12 in. wide, would certainly be an attraction at the show referred to.—RICHARD ALLEN, *Bicester.*

[We regret that, owing to the distance from the considerable height from the ground at which the swarm had clustered, the photo is not sufficiently sharp and clear to be suitable for a tone block, otherwise we should have had a reproduction of it, for it is interesting for several reasons.—EDS.]

THE "W. B. C." HIVE.

SIMPLE REMEDY FOR A FAULT.

The letter of Mr. T. Norman last week (page 503) was accompanied by a sketch of



our correspondent's simple method of removing what is, some consider, a fault in the hive referred to. We did not attach much importance to the sketch, deeming the description alone sufficiently clear for anyone to understand it. It appears, however, not to be so plain to others as to ourselves, therefore we now reproduce the sketch in question, and it will be seen how the strip of zinc (perforated, of course) answers the purpose of preventing bees from entering the space between the inner body-box and the outer case.

TESTIMONIAL TO MR. HOOKER.

The above fund is now closed, and the final arrangements with regard to the form the testimonial is to take will appear in an early issue of the BEE JOURNAL or so soon as the committee have arrived at a decision thereon.

Notices to Correspondents & Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Our Senior Editor, Mr. Cowan, desires to thank those readers who, in response to the request (on page 430) for a few seeds of the giant Canadian balsam, were good enough to send some on to this office. A sufficient supply was forwarded from the seed received from several readers, and has been safely received by Mr. Cowan in California. They will be sown and tried about 6,000 miles away from where grown.

J. B. (Llanrwst).—You are quite right in supposing that the exhibit referred to on page 391 as under weight. Class for beeswax was yours, and it was no doubt a hardship for you to only get second prize instead of first (judged by quality only). But those in charge of the show benches could not be "all over the place" at one time, and, as we now know, boys of the class known in London as "lifters" were only too numerous at the show in question; one was caught in the act and dealt with, but no more were detected. We are glad to know that although the exhibit was returned to you less the two wax-cakes that were stolen, you are content to accept the result as one for which no one but the thief was to blame.

RICHD. ALLEN (Bicester).—*Interesting Photos.*—We are obliged for the two photos, which are interesting from several points, and we may if approved by yourself have a tone-block engraved of one or both of them for publication later on.